



IIX with Premium and ASPEC Packages shawn. 92015 Acuro, Acuro, ASPEC, IIX, FYTEC, and the stylized "A" logo are trademarks of Handa Motor Co., Ltd. *Based on Acura Vehicle Segmentation, Small Luxury as of 1/10/14. Standard hartepower and weight based on manufacturer's data.





Introducing Skechers GOwalk $2^{\prime\prime}$ with engineered stability mesh and V-Stride® Technology. It's the perfect combination of style, performance, and comfort.



skechers Gowalk 2

035 **JAPAN FIGHTS BACK**

036 PREVIEW

ACURA NSX

Repeatedly rewired in flight, the future NSX sure isn't what it used to be. by Aaron Robinson

042 FIRST DRIVE

MAZDA **MX-5 MIATA**

After 26 years, the Miata is entirely different and yet absolutely the same. by Tony Quiroga

048 PREVIEW

INFINITI Q60

Whatever happened to Infiniti's greatdriving coupe? by Jeff Sabatini

050 INTELLIGENCE

TOYOTA SUPRA

Toyota follows the Silk Road to Germany. by Daniel Pund

052 PREVIEW

LEXUS GS F

F is for finesse. by Eric Tingwall

074

FIRST TEST 2016

MERCEDES-MAYBACH S600

Examining the new Maybach using all our faculties. by John Pearley Huffman

084

FEATURE **WHISKEY REBELLION**

Drinking in the roots of stock-car racing, with a blown Chevy and a trunk full of hooch. by Ezra Dyer

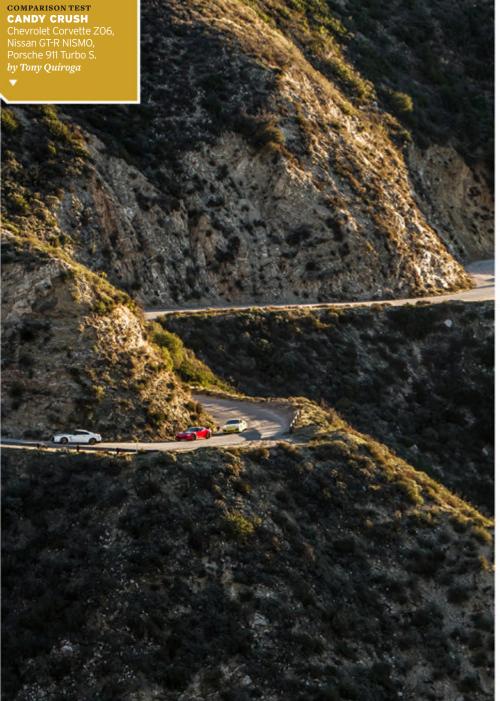
ON THE COVER

Red is the most auspicious color. photography by Paul Barshon

CAR AND DRIVER MAGAZINE = vol. 60, no. 10

in this issue

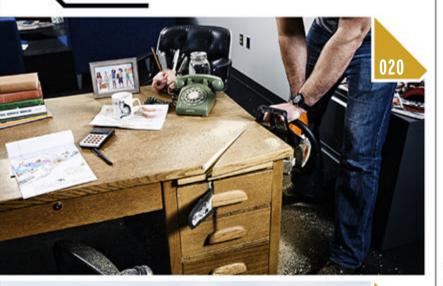
04.2015



004 04.2015

caranddriver.com

. in this issue







▼ COLUMNS

800

EDDIE ALTERMAN

Instead of "recalls," let's use the word "updates." It works for Silicon Valley.

026 JOHN PHILLIPS

Helping to kill the sports car.

028 AARON ROBINSON

Things were going great ... until a tire blew, an oil pump failed, a Ferrari rolled into me, and a tree fell on the car.

032 EZRA DYER

A letter to Tesla, from your friendly local car dealers.

▼ UPFRONT

017 CHASING BIGFOOT

The world's largest automaker, Toyota, has one heck of a footprint.

020

PRIME CUTS

PODIUM OF POWER

Slicing into the Editor-in-Chief's desk.

022 TOTAL RECALL

A record number of cars were recalled in 2014. Here are the details.

024

TECH DEPARTMENT

BEYOND CARBON FIBER

The next materials revolution will be totally tubular.

▼ DRIVELINES

092 2017 JAGUAR XE

Rejoice! Revelatory dynamics in a small luxury sedan! And exclamation points!

096

TESTED AUDI A3 CABRIOLET 1.8T

Kappa Kappa Gamma, this one's for you.

098

TESTED FORD MUSTANG ECOBOOST

Needs an extra boost to match its badass looks.

100

TESTED CHEVROLET COLORADO LT 4X4

The newest smallishlarge thing in its class, for now.

102

TESTED LEXUS RC350 F SPORT

Now, where's that number for Jenny Craig?

▼ ETC.

007 BACKFIRES

Why, in all the letters about 10Best, is no one confused by the fact that there is no space between "10" and "Best?" Because we are.

112 WHAT I'D DO DIFFERENTLY

Frank Stephenson.

▼ ON THE WEB

INSTRUMENTED TEST

2015 TOYOTA CAMRY 2.5L

The punching bag fights back—sort of.

CARandDRIVER. com/2015Camry25

INSTRUMENTED TEST

2015 VOLVO S60 POLESTAR

Edgy professors—those who wear herringbone tweed—need apply. **CARandDRIVER.**

CARANGURIVER. com/2015S60Polestar

INSTRUMENTED TEST

2015 MERCEDES-BENZ SLK250 MANUAL

The only Benz in America to offer a stick. **CARandDRIVER. com/2015SLK250**



PROXES

High Performance That Never Rests.

WE ARE TOYO. ALL OR NOTHING. TOYO TIRES

5-STAR OVERALL VEHICLE SCORE FOR SAFETY.1

TRAVERSE: A NEW STANDARD OF SAFETY.



NHTSA 5-Star Safety

HIGHEST POSSIBLE SAFETY SCORE

The 2015 Traverse has received the highest possible award from the National Highway Traffic Safety Administration (NHTSA): a 5-Star Overall Vehicle Score for safety.1 NHTSA independently tests for front and side impacts plus rollover resistance and then rates vehicles on a scale from one to five stars - the more stars, the safer the vehicle.



Front Center Air Bag Innovation

SURROUNDED BY SAFETY

Traverse offers six standard air bags and an available industry-first front center air bag? Built into the right side of the driver seat, this innovative front center air bag deploys in milliseconds to provide restraint and cushioning for both the driver and the front passenger in the event of a side-impact crash and added protection in the event of a rollover. In Traverse, you're surrounded by safety and the peace of mind it brings.



StabiliTrak.

Side Blind Zone Alert, OnStar

BE PREPARED ON THE ROAD

StabiliTrak® Electronic Stability Control selectively applies the brakes to keep you steady in the corners, while the standard rear vision camera detects stationary objects behind you. Side Blind Zone Alert3 warns you when it detects a vehicle in your blind spot and again if you attempt to change lanes. And available OnStar® Automatic Crash Response⁴ connects you to an Advisor who can get emergency help after a collision, even if you can't respond.



The 2015 Traverse is refined and stylish inside and out and features the latest technology - innovative air bag design, stability control and blind zone alerts surrounding you and your passengers with safety from every angle.

FIND NEW ROADS

FOR MORE INFORMATION ON THE 2015 TRAVERSE GO TO CHEVROLET.COM/TRAVERSE





1 Government 5-Star Safety Ratings are part of the U.S. Department of Transportation's New Car Assessment Program (www.SaferCar.gov). 2 Always use safety belts and child restraints. Children are safer when properly secured in a rear seat in the appropriate child restraint. See the Owner's Manual for more information. Air bag inflation can cause severe injury or death to anyone too close to the air bag when it deploys. Be sure every occupant is properly restrained. 3 Before making a lane change, always check the Side Blind Zone Alert display, check the side and inside rearview mirrors, look over your shoulder for vehicles and hazards, and start the turn signal. 4 Visit onstar.com for coverage map, details and system limitations. OnStar acts as a link to existing emergency service providers. Not all vehicles may transmit all crash data.



backfires

□ hosted by ED.

007 04.2015





COVER

So...I received in the mail my January 2015 edition of *Corvette and Driver* this week... thanks for the update.

STEPHEN F. SMITH

ALBUQUERQUE, NEW MEXICO What did you think of the new radio-knob trim? Pretty cool, huh?—Ed.

WHAT A DRAG

Apparently all those fancy downforce-producing aero bits create about as much drag as a parachute ["Stun Ray," January 2015]. Either that or something was wrong with your test car. I say this because, despite about a half-second advantage to 60 mph, this C7 Z06 still is slower to 150 mph than the C6 Z06, which was working with 145 fewer horsepower. Also, looking at the high-speed acceleration times (120–150, for example), this car falls behind other, significantly less powerful cars (Nissan GT-R, Porsche 911 GT3). Opinions?

K. REILLY

BROOKLYN, NEW YORK

Seriously? 185 mph? I would think that 650 horsepower could push the crate a Corvette would fit in to at least 185 mph. Given comparable cars (I would assume somewhat similar total drag figures), all exceed 200 mph. If the car can attain max-power rpm in sixth gear, that comes out to around 208. Or does the Zo6 have so much drag that it runs

into a brick wall at 185 mph?

By the way, I teach Aero to T-45 students on their way to Navy wings, and we discuss drag issues a lot. I point out that I had an F-8 (the first aircraft I flew in my career) up to 1.75 Mach with less than half the thrust of a current F/A-18 (which rarely exceeds 1.6 Mach). I understand drag, and the Hornet has bundles compared with many aircraft. So is that the case with the monster Corvette?

JOHN CARRIER
MERIDIAN, MISSISSIPPI

I am 73 and have been a reader of your mag for more than 50 years, but I am confused. In your January article on the Zo6, top speed is listed as 185 mph. The 2014 CTS-V with a manual tranny has been listed at 191 mph; the 2016 CTS-V has a top speed of 200 mph with 10 fewer horses. I am sure other readers have the same question. Can you explain?

DON SCHARENBROCH

WARREN, MICHIGAN

We've had no opportunity to measure the top speed of a Corvette Zo6 with or without the Zo7 Performance package. But, Corvette engineer Jim Mero driving a Zo7 topped the Virginia International Raceway straightaway speed we achieved in a Corvette Z51 by 3 mph. He also beat our Porsche 918 Spyder lap time by 1.8 seconds, suggesting that the Performance package emphasizes road-course performance over top speed—Ed.

A full-on supercar at half the price? Okay. Zero to 60 in 3.0, check. Quarter-mile in 11.1 at 127 mph, check. And 1.19 g's on the 300-foot skidpad? Whoa! This reminds me of a car a friend of mine owns, a Lamborghini Gallardo Superleggera. The first time I was in that car we

launched it to see what zero to 60 in 3.0 felt like. I couldn't believe the speed and violence, each shift hitting me in the back like a sledgehammer. The only other time I felt that kind of acceleration was in a '90s Mazda RX-7 that was tuned to within an inch of its life—running 135 mph on Iowa back roads at night. (I have no idea how I survived my youth.) The ZO6 numbers are pretty much the same as the Lambo's. Check.

KELSEY MULLEN

CARLSBAD, CALIFORNIA

The acceleration numbers are right on it, but the Lambo's braking and skidpad numbers don't measure up to the Zo6's. Checkmate—Ed.

In Aaron Robinson's article on the new Zo6, the words "Thank you, President Obama" were noticeably absent.

DAVID LUNA

COLTON, CALIFORNIA

Thank you, David Luna—Ed.

BIG SKY STAFF

John Phillips's "Of White Mice and Rabid Kangaroos" was a thoroughly entertaining piece [January 2015]. Send the rest of your staff to Montana. It seems to inspire artfully crafted pastimes.

JOHN PHELPS

ROCK HILL, SOUTH CAROLINA

THE FIX IS IN

I am typing this with similarly semicompetent hands smothered in grime, grease, and Gojo as described by Ezra Dyer in his brilliant January 2015 column ["It Takes a Village to Change a Serpentine Belt"]. As a 16-year-old owner of an obnoxious 2002 Subaru WRX, and also a money-conserving try-to-do-it-yourselfer, my experiences



. backfires

match Dyer's. His discussion of the hardships of internet-forum "mechanics" and the time spent reviewing YouTube video after YouTube video in an attempt to make a challenging job easy is hilariously relatable. This article also provided me with a nice distraction from watching timing-belt tutorials as I look at my precious car torn apart far past the point of no return, and I attempt to figure out how to prevent my valves from kissing my pistons.

AVERY LUKAN

HUMBOLDT, SASKATCHEWAN

I can't help but chuckle while reading "It Takes a Village to Change a Serpentine Belt." Several weeks before, after studying several online how-tos and watching a YouTube video, I crawled under the car and changed the serpentine belt and several attendant pulleys.

The next morning, I couldn't walk. After two doctor visits, an X-ray, an MRI, PT sessions, enough pain to make me temporarily rethink any ambulatory ambitions, and my wife's near-constant reminder, "Yeah, and look how much money you saved!" I'm lying here in bed reading Dyer's column. It probably wouldn't hurt (no pun intended) to include a physician in that village.

JOHN STEWART JR.

MONTEVALLO, ALABAMA

If we include a physician, we'll also have to get an attorney—Ed.

I've been enjoying *Car and Driver* since the days of Warren Weith and L.J.K. Setright. The imagery Dyer shared was reminiscent of those days. My friends and I have a running joke about going to see ANY auto-production line. At the start there's a heater core suspended in space, and the entire vehicle is built around it.

KIM WROBLEWSKI

INDIANAPOLIS, INDIANA

Hey, Ezra, I used YouTube to fix the wiring on the wife's Dodge Caravan. It's broken again, but the cookies tasted great. We should hang out.

JONATHAN WEBB

FRISCO, TEXAS

We'll pass your note along to Ezra's wife as she handles his play-date scheduling—Ed.

. editor's letter

The automotive recall needs a serious rebranding. Recall is such an ugly word, implying that something was unintentionally wrong about a product in the first place. From now on, recalls should be thought of as "updates." Cars launch in "beta." That's how Silicon Valley does it, and they're right about everything.

After a year of industry-battering recalls [see page 022], and after this year's International Consumer Electronics Show gave over an entire hall of the armory-like Las Vegas Convention Center to automotive tech, the time would seem right to take the software industry's approach. Countless pieces of research already confirm that buyers care more about a new car's infotainment system than its engine. In the future, there may be no gearheads, because there may be no gears.

The car business's problem is that it's just way too real. The solution? More positivity, more rebranding. While we're at it on the recall semantics, we should also reimagine the car itself as a magical device that can transport you to the world of your fantasies—kind of like an iPhone but with, y'know, the actual capability of physically transporting you to a real place. The solution must certainly be to adopt all the conventions and sleights of hand so fruitfully employed by the

electronics business, including the freedom to launch products before they're fully baked. GPS maps don't work? Wait for the update. By-wire steering on the fritz? We're working out the bugs. Lane keeping keeping you in the wrong lane? The new version will be downloadable in the fall, and it's going to be awesome.

Except it won't. Car companies can't afford to create works in progress. No amount of magical thinking will keep carmakers from paying for their slip-ups, and they shouldn't be seduced by the siren call of Silicon Valley. Such radically higher stakes are proof enough that cars are more important than phones.

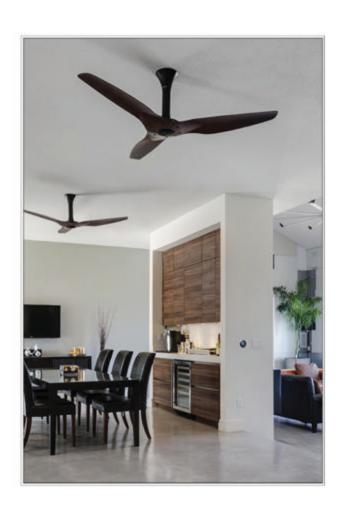


Eddie Alterman

EDITOR-IN-CHIEF



Haiku goes high tech



Haiku® with SenseME™ is the only ceiling fan with an onboard computer. Here's what that means for you:

- Changes fan speeds automatically when a room gets warmer or cooler
- · Remembers your preferences to keep you comfortable
- Works with the Nest Learning Thermostat™ to save on energy and bills
- Connects to your smartphone, like everything else in your life
- Adds serious brains to the best-looking fan on the planet

You can even experience the smarts of SenseME in your home risk-free for 30 days.

To receive a free Haiku info kit, visit bigassfans.com/INFO and use promo code CAR415.





. backfires

I understand that you don't use normal criteria for 10Best picks, but the latest edition is just irritating, not enlightening. You really should call it "10 Cars We Liked More Than Others for a Variety of Inconsistent Reasons." If the purpose was pure entertainment, it wasn't particularly entertaining. If the purpose was to help car-buying enthusiasts with useful data, it was a total failure.

Consider: There were two sports cars (or three if you include the Ford Mustang). Are you saying that both the C7 and the Porsches are the best? If you actually had a comparison of the two, you would have picked a winner. There were two small hatchbacks—or eight if you include the various VW Golf models plus the Mazda 3. And regarding the Mazda 3, are you really saying it has the best ergonomics of every car you evaluated? There were three four-door, five-passenger, gas-engined sedans—how can all three be the best? Sleekness? Give me a break. You apparently had to invent a meaningless category to include at least one BMW.

JASON CUTLER

WILTON, CONNECTICUT

We pick our 10 favorite cars for sale under a price cap, even though we understand that the word "best" is, strictly speaking, a superlative. Work with us here—Ed.

Your January 2015 issue brought back memories of my exploits as I commuted on Michigan's back roads between my office in Ann Arbor and my home in East Lansing. At the time I was driving a Honda del Sol, with the 160-hp VTEC engine and a Ferrari crest in place of the usual Honda badge—yes, I was enjoying my automotive fantasies. Those back



EDITOR-IN-CHIEF Eddie Alterman

DEPUTY EDITOR Daniel Pund **EXECUTIVE EDITOR** Aaron Robinson MANAGING EDITOR Mike Fazioli FEATURES EDITOR Jeff Sabatini TECHNICAL EDITORS K.C. Colwell, Eric Tingwall COPY CHIEF Carolyn Pavia-Rauchman EDITOR, MONTANA DESK John Phillips STAFF PHOTOGRAPHER Marc Urbano **EUROPEAN EDITOR Mike Duff** CAROLINAS EDITOR Ezra Dver

CONTRIBUTING EDITORS Clifford Atiyeh, Csaba Csere, Fred M.H. Gregory, John Pearley Huffman, Davey G. Johnson, Peter Manso, Bruce McCall, P.J. O'Rourke, Tony Swan, James Tate, Kevin A. Wilson, Dweezil Zappa CREATIVE DIRECTOR Darin Johnson TECHNICAL DIRECTOR Don Sherman DESIGN DIRECTOR Nathan Schroeder SENIOR EDITORS Tony Quiroga, Jared Gall ASSOCIATE MANAGING EDITOR Juli Burke copy EDITOR Jennifer Harrington ASSOCIATE DESIGNER Jennifer Choi OFFICE AND INVOICE MANAGER Susan Mathews ROAD WARRIORS Charley M. Ladd, Zeb Sadiq, David Beard

CONTRIBUTING ARTISTS Mark Bramley, Bryan Christie Design, Jim Fets, Robert Kerian, Aaron Kiley, James Lipman, Charlie Magee, Sean McCabe, Chris Philpot, Roy Ritchie, John Roe, Michael Simari

EDITORIAL OFFICE 1585 Eisenhower Place, Ann Arbor, Michigan 48108

PUBLISHED BY HEARST COMMUNICATIONS, INC. PRINTED IN THE U.S.A.

EDITORIAL CONTRIBUTIONS Unsolicited artwork and manuscripts are not accepted, and publisher assumes no responsibility for return or safety of unsolicited artwork, photographs, or manuscripts. Query letters may be addressed to the deputy editor.

roads from North Territorial Road, through Gregory, Dansville, and to East Lansing were a great use of that marvelous engine and those Michelin Pilot Super Sports. The one time I did encounter a real Ferrari was magical, as I gave chase—fruitlessly—through those twists and turns. I'm glad you are making good use of our real roads.

STEVE SZILVAGYI

ONEKAMA, MICHIGAN

Since your "route" just happens to be part of my 108-mile, clear-my-head motorcycle loop, I am begging you to not publish the map again. There's enough traffic on this loop as it is, and with the so-called "resurfacing" this year, I'm sure the traffic will increase. Don't recall you guys showing a map of your southeastern Ohio loops (although I would like to know which roads you do take), so with the limited amount of

twisty roads out here, please don't do it again. Just to show I'm not a total dick, call me and I might share the rest of my route.

SCOTT COREY

MASON, MICHIGAN

If people ask the location of your test route, you can tell them to go to Hell.

MICHAEL MARCOVITZ

THREE'S COMPANY

After reading your praise for the BMW 3-series over many years, I finally bought a 335i last January. Now you tell me it has lost its way and I should get the M235i. ARGHHH! At least I didn't sell the Honda S2000.

WILL HALTIWANGER

COLUMBIA, SOUTH CAROLINA

HORSE OF A DIFFERENT COLOR

Ford, now you've finally done it. I've never coveted a Mustang before, but if you build a dark-green Bullitt edition with black wheels, I will build another garage and buy it. No way am I giving up the Porsche Cayman or Mini Cooper S, so construction will be a necessity.

KENT TOPHAM

HOLLADAY, UTAH

THE REVIEWS ARE IN

In your review of the 10Best cars, you did the Honda Accord no favor by comparing the Accord's rating to Michelin giving three stars to McDonald's. McDonald's recently ranked last in fast-food ratings and is suffering market decline. Other than for French fries, I never go to McDonald's, while Honda's manual-transmission setup is among the very best. What was the writer thinking?

AL HANNAH

KANSAS CITY, MISSOURI

Hannah, try reading it again more slowly.

INTRODUCING THE SPYDER F3

IF YOU THINK IT LOOKS GREAT ON PAPER, WAIT UNTIL YOU SEE IT IN ACTION.



VISIT YOUR LOCAL CAN-AM® SPYDER® DEALER FOR A TEST RIDE TODAY.

Experience the soul-stirring exhilaration of the all-new Spyder F3. With a cruising riding position, high-torque Rotax® 1330 ACE™ engine, personalized fit, and signature Y-Frame design, you'll ride with a feeling of complete freedom and confidence. The evolution of riding is here. Visit CanAmSpyder.com to register for a test ride today.

RIDING HAS EVOLVED.





PROMOTION





TIME TRAVEL AT THE SPEED OF A 1935 SPEEDSTER?

The Stauer 1930s Dashtronic deftly blends the modern functionality of a 21-jewel automatic movement with the distinctive, retro look of a jumping display (not an actual jumping complication). Stauer 1930s Dashtronic Watch \$99+S&H.

Call 1-800-859-1602 with promotional code
DTW134-01 or visit www.stauer.com for more information.





. backfires

We say giving the Accord a 10Best nod may seem like giving McDonald's three stars, but it's not. How about them Royals?—Ed.

Your 2015 10Best list was, without a doubt, the most informative, entertaining, and sublimely written missive I've ever read in a periodical of any type. By the way, the section on the Accord, of which I'm an owner, truly nailed it.

JACK FESSLER

GIBSONVILLE, NORTH CAROLINA

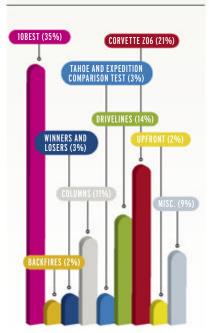
DESIGNER SHADES

Hey, Duff, your note about car designers being pretentious is spot on. I stopped reading Robert Cumberford (in that other car magazine) a few years back because he was so pompous that I got tired of gagging on his descriptions and looking down on so many other car designers.

And to Mr. Chief Ed., this 10Best was the best yet. The illustrations were delightful, and I just loved a different, lighter take on the whole subject.

> PAUL MERRILL LITTLETON, COLORADO

* STACKS OF MAIL





SAD IN STUTTGART

Y'all got the Tesla right in your 10Best review but failed badly with the Porsche Boxster. I bought a 2014 Boxster (after your glowing initial review) but had to get rid of it after a few months in sheer frustration. The visibility to the rear is almost nonexistent with the top up. The clutch and brake pedals are so close together that my left foot frequently caught the brake pedal when I depressed the clutch. The manual badly needs a seventh gear for freeway driving, as the engine noise right behind your head at freeway speeds in sixth gear is loud enough to drown out the radio. The car was a headache literally and figuratively. Yet your 10Best testers had "complaints only about the cup holders."

PETER RONAL

SALEM, OREGON

Ronai, if we wrote what you wrote, the readers would say that we're complaining because the Boxster isn't a Cadillac Eldorado—Ed.

ALUMINUM SIDING

The new Ford F-150 has an artificial V-8 sound, but why stop there [Drivelines, January 2015]? I can see it now: download engine sounds like ringtones. Harley-Davidson, Peterbilt, whatever your first car was. The possibilities are endless.

BILL LYNN

YORKTOWN, VIRGINIA

Do these melodious engine sounds still come through the speakers if the radio is off?

R.T. WILLIAMS

WAYNE, NEW JERSEY

Yes-Ed.

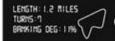
I love your magazine. I am a subscriber. I have never written in, let alone a negative comment. I read with interest the article by Eric Tingwall on the F-150 in the January issue. He mentions the phrase "military-grade" aluminum. There is also a blue caption under the picture on page 102 that says, "... the finest high-strength, military-grade aluminum alloy in all the multiverse." You must do your homework before making such a comment. There is no



Exotics Racing brings you the original supercar driving experience with the world's largest fleet of exotic cars. You'll get real time coaching from pro racing instructors as you push the limits lap after lap. Driving packages start from \$199 for 5 laps. High speed ride-along, gift certificates, group & corporate events also available. Open 7 days a week at our racetracks at the Las Vegas Motor Speedway and Saturdays at the Fontana Auto Club Speedway.

XOTICS RACING BOOK YOUR DRIVING EXPERIENCE TODAY!

(702) 802-5672 or EXOTICSRACING.COM











. backfires

such grade as military-grade aluminum, period. The term is obviously a marketing ploy by Ford to counteract the idea of easily crushed aluminum cans. Ford should be brought to task on its false statements.

RON LUND

SOMEWHERE IN ONTARIO

The military-grade descriptor in the text was clearly marked with quotes attributable to F-150 marketing boss Doug Scott. For the record, the F-150 cab and bed are comprised of 5000- and 6000-series aluminum alloys also common in aerospace and aircraft applications—Ed.

If I'm the Ford accountant who approved the aluminum F-150, and the resulting product comes in about 100 pounds lighter than an equivalent Silverado, my next big expenditure would be ordering the pink slips for Ford engineers.

CHAD PERRY

FORT McMURRAY. ALBERTA

WORD TIME

In Davey G. Johnson's article about the BMW Alpina B6 Gran Coupe, I have questions about the following obfuscatory prose: What is a "snailhuffed 4.4-liter V-8" [Drivelines, January

> 2015]? What is "ferried its share of ad hoc couples home from key-basket parties" supposed to mean? What is a "still-funky dual-clutch transmission"? I would prefer to know exactly what makes this particular archaic transmission funky. How does "funky" metaphorically apply to a transmission anyway? Is Johnson huffing?

FRANK D.

BOSTON, MASSACHUSETTS

Answer time: Snail-huffed refers to the snail-like shape of a turbocharger. Johnson is guessing that the classic 6-series was probably driven by swingers to and from key parties. You'll have to figure out key parties on your own. The M6's dual-clutch automatic isn't archaic, it's just a bit unpolished and therefore funky. Johnson huffs snails-Ed.

CANADIAN MUSINGS

Sorry, Mercedes, I don't think many grown-ups will pay \$67,000 for a hatchback that could be mistaken for a Dodge Caliber.

MARK HUDD

BRIDGEWATER, NOVA SCOTIA GLA make Canada grumpy-Ed. 📰

\star LETTER OF THE MONTH



DÉJÀ VU

Your latest issue arrived today. and once again I was disappointed. I don't care how you did it or what cars you used, it was NOT the cars that you should have used or the way that I would have tested. I would cancel my subscription, but it was a gift from a friend.

> TYPICAL CAR AND DRIVER LETTER WRITER

> > HIGHWAY, MY WAY, USA



PUBLISHER AND CHIEF REVENUE OFFICER

Felix DiFilippo

EXECUTIVE DIRECTOR, GROUP MARKETING Lisa Boyars NATIONAL ADVERTISING DIRECTOR Jason Nik

New York

EAST COAST AUTOMOTIVE DIRECTOR
Cameron Albergo • 212-649-4159
INTEGRATED SALES MANAGER Samantha Rady • 212-649-2867 SALES ASSISTANT Jennifer Zuckerman • 212-649-2875

SALES ASSISTANT Jennifer Tuckerman * 212-649-2875 Chicago
INTEGRATED SALES DIRECTOR RICK Bisbee * 312-251-5312
INTEGRATED SALES DIRECTOR RICK Bisbee * 312-251-5355
ASSISTANT YONNO Williared * 312-2914-5196
Detroit
INTEGRATED SALES DIRECTOR Mark Fikany * 248-614-6120
ASSISTANT TONI STATTS * 248-614-6011
LOS Angeles
INTEGRATED SALES DIRECTOR AnnE Rethmeyer * 310-664-2921
ASSISTANT Michelle Nelson * 310-664-2922 Dallas

PR 4.0 MEDIA Patty Rudolph • 972-533-8665

MARKETING SOLUTIONS

SENIOR MARKETING DIRECTOR JASON GRAHAM
ASSOCIATE MARKETING DIRECTOR BONNIE HARRIS
ASSOCIATE MARKETING DIRECTOR AMANDAL LUGINDIII INTEGRATED MARKETING MANAGER Rob Gearity MARKETING MANAGER Michael Coopersmith MARKETING COORDINATOR Holly Mascard

HEARST MEN'S GROUP

SENIOR VICE PRESIDENT AND GROUP PUBLISHING DIRECTOR

Jack Essig

ASSOCIATE PUBLISHER AND GROUP MARKETING DIRECTOR
Jill Meenaghan
GENERAL MANAGER Samantha Irwin EXECUTIVE DIRECTOR GROUP STRATEGY AND DEVELOPMENT

Dawn Sheggeby

EXECUTIVE CREATIVE DIRECTOR, GROUP MARKETING

Alison DeBenedictis

ART DIRECTOR George Garrastegui, Jr. ASSOCIATE ART DIRECTOR Michael B. Sarpy GROUP DIGITAL MARKETING DIRECTOR

Kelley Gudahl

EXECUTIVE DIRECTOR, DIGITAL ADVERTISING SALES
BILL MCGATTY
EAST COAST DIGITAL SALES MANAGER

Drew Osinski SENIOR DIGITAL SALES STRATEGIST Amanda Marandola SENIOR DIGITAL SALES STRATEGIST Kameron McCullough

DIGITAL MARKETING MANAGER Anthony Fairall
SENIOR FINANCIAL ANALYST
Naiobe Mayo

ADMINISTRATION

ADVERTISING SERVICES DIRECTOR Regina Wall ADVERTISING SERVICES COORDINATOR Aiden Lee ASSISTANT TO THE PUBLISHER Jeanette Silverstein CENTRALIZED BILLING SERVICES CORPINATOR Kourtney Keith PRODUCTION

GROUP PRODUCTION DIRECTOR Chuck Lodato

GROUP PRODUCTION MANAGER Jackie Beck
ASSOCIATE PRODUCTION MANAGER Frank Linzan CIRCULATION

CONSUMER MARKETING DIRECTOR William Carter
Direct Response Advertising
SALES MANAGER Brad Gettelfinger • 212-649-4204 ACCOUNT MANAGER John Stankewitz • 212-649-4201

PUBLISHED BY HEARST COMMUNICATIONS, INC.

PRESIDENT & CHIEF EXECUTIVE OFFICER Steven R. Swartz

CHAIRMAN William R. Hearst III EXECUTIVE VICE CHAIRMAN Frank A

Bennack, Jr. HEARST MAGAZINES DIVISION

PRESIDENT David Carey PRESIDENT, MARKETING & PUBLISHING DIRECTOR Michael A. Clinton **EXECUTIVE VICE PRESIDENT & GENERAL MANAGER** John P. Loughlin EDITORIAL DIRECTOR Ellen Levine PUBLISHING CONSULTANTS Gilbert C. Maurer, Mark F. Miller





SUBSCRIPTION SERVICE For fast and convenient subscription service, visit service.caranddriver.com to order a print subscription, pay your bill, renew your subscription, give a gift subscription, update your mailing and email addresses, and more! Or write to Customer Service Department, Car and Driver, P.O. Box 37870, Boone, lowa 50037; or call toll-free: 800-289-9464. • PERMISSIONS Material in this publication may not be reproduced in any form without permission. • REPRINTS For information on reprints and e-prints, please contact Brian Kolb at Wright's Reprints, 877-652-5295 or bkolb@winghtsreprints.com. • BACK ISSUES To order back issues dated within the past two years, please go to backissues.caranddriver.com. For digital back issues, please go to www.zinio.com/cd-issues. • Car and Driver © is a registered trademark of Hearst Communications, Inc. • Copyright 2015, Hearst Communications, Inc. All rights reserved.

50 million drivers receive a speeding ticket each year



Only Bluetooth-equipped PASSPORT Max2 packs lightening-fast response, sophisticated anti-falsing and a pre-loaded speed camera database with instant connection to ESCORT Live*, the speed trap app responsible for 38 million saves.





Ready to drive

Order PASSPORT Max2 and get everything you need to drive worry-free: our best mount, cord and case plus a 1-year premium subscription to ESCORT Live, our award-winning app (\$49.95 value).



Direct access to the radar experts

When you call ESCORT for advice, you'll speak to an ESCORT employee at our Cincinnati headquarters. Call or Live Chat—radar experts are on hand to help you select the best ticket protection system for you.



*Shown with ESCORT Live.
The Bluetooth* word mark and logos are registered trademarks owned by Bluetooth SIG,Inc. and any use of such marks by ESCORT is under license.

888.348.6307 EscortRadar.com

Eree 30-day



NISSAN HERITAGE.

LEGENDS BUILT FROM THE GROUND UP.

Under the blue and red banner of the turbocharged Bluebird, we turned rally men into racing legends in '84. It was a tradition that began in '36 and carries through today, from the podiums of Bathurst '92 and DAYTONA' '94 to Le Mans in 2014, where over half the LMP2 class ran on Nissan power. For us, it's about staying true to the spirit of innovation that drives us to greatness.

Racing Heritage | Performance Innovation | Championship Spirit



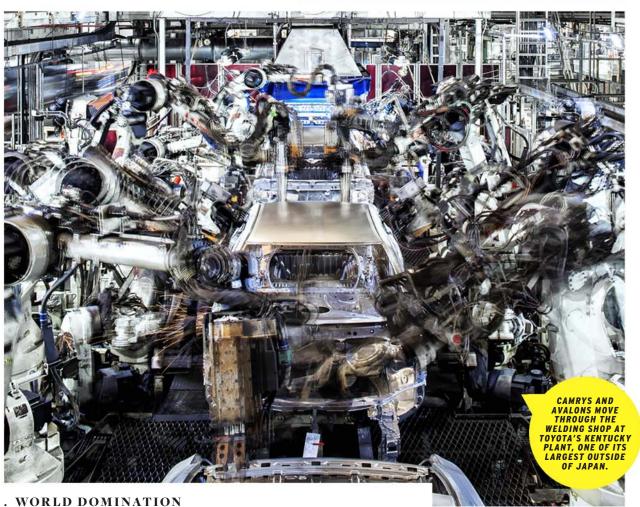
Michael Caruso interviews George Fury.

upfront

□ edited by JARED GALL



MR. POPULAR
The Scion FR-S, known outside of the U.S. and Canada as the Toyota GT86 or just the 86, is Toyota's most widely available offering. It's sold in 39 of the company's 44 largest markets globally.



Chasing Bigfoot

THE WORLD'S LARGEST AUTOMAKER, TOYOTA, HAS ONE HECK OF A FOOTPRINT. by Jared Gall

ELSEWHERE IN THIS issue, you'll read about the resurgence of Japanese performance. When it comes to sales performance, though, Toyota is already tops. It has sold more vehicles than any manufacturer for six of the past seven years, topping 10 million sales worldwide in 2014. But last year, many of this giant's headlines focused on its decision to consolidate its U.S. operations from California, Kentucky, and New York in Plano, Texas, a suburb of Dallas. The stated intent is to integrate disparate engineering, manufacturing, and financial arms into a streamlined entity better equipped to operate in North America. The move is expected to relocate about 4000 employees.

But the U.S. is only a wave in Toyota's vast ocean. For an enterprise of this scale, the 4000 jobs moving to Plano represent barely 1 percent of its worldwide workforce. The company relies on hundreds of thousands of people in nearly 30 countries to engineer, design, and build the vehicles it sells in more than 160 countries. Here is a look at the infrastructure necessary to be the largest (known) auto manufacturer in the Milky Way.

018 04.2015

caranddriver.com

upfront . WORLD DOMINATION

FACILITIES KEY:

PRODUCTS/DATE OPENED/ ANNUAL VEHICLE OUTPUT/EMPLOYEES

A "-" indicates data is nonapplicable and/or not available.

NORTH AMERICA

CANADA

- Canadian Autoparts Toyota aluminum wheels/1985/-/329
- Toyota Motor Manufacturing Canada Corolla, Matrix, RAV4, RX/1988 519,000/7500
- Tovota Canada Cold Research Centre

UNITED STATES

- TABC, California catalytic converters, steering columns, stamped parts/1972/-/486
- Toyota Motor Manufacturing, Kentucky Avalon, Camry, Venza, engines 1988/462,000/7831
- Bodine Aluminum, Missouri and Tennessee aluminum castings/1993/-/1036
- Toyota Motor Manufacturing, West Virginia engines, transmissions/1998/-/1242
- Toyota Motor Manufacturing, Indiana Highlander, Sequoia, Sienna/1999 297,000/5026
- Toyota Motor Manufacturing, Alabama engines/2003/-/1036
- Toyota Motor Manufacturing, Texas Tacoma, Tundra/2006/219,000/2883
- Subaru of Indiana Automotive Camry/2007/93,000/3532
- Toyota Motor Manufacturing, Mississippi Corolla/2011/130,000/1796
- Calty Design Research California
- Calty Design Research Michigan design, engineering/
- Toyota Arizona Proving Ground vehicle evaluation and testing/-/-/-

MEXICO

 Toyota Motor Manufacturing de Baja California Tacoma, truck beds/2004/56,000/702

SOUTH AMERICA

ARGENTINA

 Toyota Argentina Fortuner, Hilux/1997/93,000/4232

BRAZIL

• Toyota do Brasil Corolla/1959/83,000/5264

VENEZUELA

• Toyota de Venezuela Compania Anonima Corolla, Fortuner, Hilux/1981/12,000/1771

EUROPE

BELGIUM

• Toyota Motor Europe regional headquarters/2005/-/-

CZECH REPUBLIC

• Toyota Peugeot-Citroën Automobile Czech Aygo/2005/74,000/2425

- Toyota Motor Manufacturing France Yaris/2001/201,000/3638
- Toyota Europe Design Development design/2000/

GERMANY

 Toyota Motorsport Gmbh motorsports development/1993/-/-

POLAND

- Toyota Motor Manufacturing Poland engines, transmissions/2002/-/1659
- Toyota Motor Industries Poland engines/2005/-/779

PORTUGAL

 Toyota Caetano Portugal Dyna/1968/-/190

TURKEY

• Toyota Motor Manufacturing Turkey Corolla, Verso/1994/77,000/3300

- Toyota Motor Manufacturing U.K. Auris, Auris hybrid, Avensi engines/1992/109,000/3891
- Toyota Motor Europe regional headquarters/-/-/-

AFRICA

EGYPT

· Arab American Vehicles Co. Fortuner/2012/-/700

KENYA

 Associated Vehicle Assemblers Land Cruiser/1977/-/204

SOUTH AFRICA

 Toyota South Africa Motors Corolla, Dyna, Fortuner, Hilux/1962/ 150,000/6925

BANGLADESH

 Aftab Automobiles Land Cruiser/1982/-/430

CHINA

- Tianjin Fengjin Auto Parts axles/1998/-/975
- Tianjin FAW Toyota Engine Co. engines/1998/-/2080
- Tianjin Toyota Forging Co.
- forged parts, CV joints/1998/-/357 • Tianjin FAW Toyota Motor Co.
- Corolla, Crown, RAV4, Reiz, Vios/2002/ 454,000/12,749
- FAW Toyota Engine Co. ngines/2004/-/842
- Toyota FAW Dies Co.
- stamping dies/2004/-/212
- GAC Toyota Engine Co. engines/2005/-/1533
- Sichuan FAW Toyota Motor Co. Coaster, Land Cruiser, Land Cruiser Prado, Prius/1999/44,000/6305
- GAC Toyota Motor Co. Camry, Highlander, Yaris/2006 251,000/8073
- Toyota Motor Engineering & Manufacturing China Co. research, engineering, evaluation/2010/-/-

NOW WIDELY AVAILABLE

The Toyota cars we get in the U.S. form the basis of its lineup in many countries worldwide. And then there are vehicles like the Vellfire, sold only in Hong Kong. The following vehicles are Toyota's most widely available products in its 44 largest global markets:

TOTAL

TOYOTA

EMPLOYEES,

GLOBALLY: 340,000

TOYOTA RAVA: 37 LEXUS RX: 37 LEXUS GS: 37 TOYOTA PRIUS: 36 LEXUS IS: 36 TOYOTA COROLLA: 35

Models sold in the fewest markets are:

LEXUS CT: 35

TOYOTA 4RUNNER: 3 TOYOTA VENZA: 3 TOYOTA WISH: 3 TOYOTA ETIOS: 3 TOYOTA MARK X: 3
TOYOTA RUSH: 2
TOYOTA NOAH: 2
TOYOTA COMFORT: 1
TOYOTA VELLFIRE: 1

INDIA

• Toyota Kirloskar Motor Corolla, Etios, Fortuner, Innova/1999/

192,000/9670 • Toyota Kirloskar Auto Parts

drivetrain parts/2002/-/1364

INDONESIA

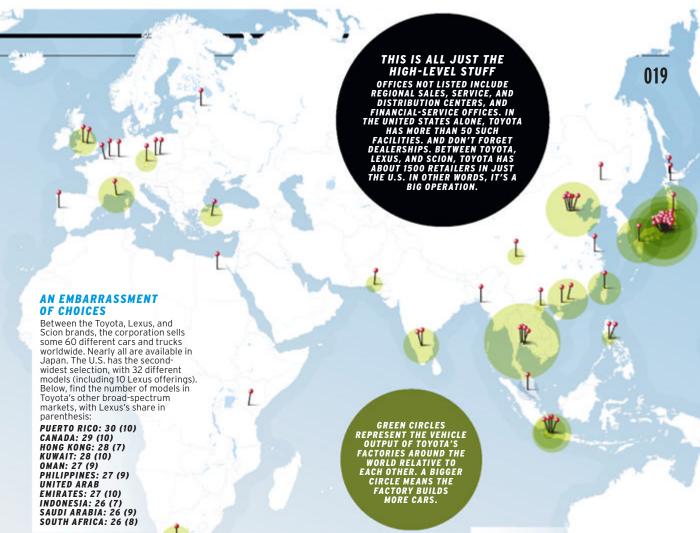
- PT Toyota Motor Manufacturing Indonesia Avanza, Fortuner, Innova, engines/1970/ 155,000/6717
- PT Astra Daihatsu Motor Avanza/2003/231,000/10,156
- PT Hino Motor Manufacturing Indonesia Dvna/2009/23.000/2369
- PT Sugity Creatives Noah/2012/-/1966

JAPAN

Honsha Plant

chassis and hybrid-powertrain parts/1938/-/1776

- Motomachi Plant
- Crown, Estima, Mark X/1959/70,000/4085
- Kamigo Plant
- engines/1965/-/3034
- Takaoka Plant Auris, Corolla, iQ/1966/180,000/3293



- Miyoshi Plant transmission and engine parts/1968/-/1456
- Tsutsumi Plant Allion, Camry, Premio, Prius, Scion tC, 1970/510,000/5045
- Myochi Plant powertrain parts/1973/-/1512
- Shimoyama Plant engines, turbochargers, catalytic converters/1975/-/1535
- Kinu-ura Plant transmission parts/1978/-/3062
- Tahara Plant GS, GX, IS, Land Cruiser, LS, RAV4, Vanguard, Wish, engines/1979/400,000/7821
- Teiho Plant mechanical equipment, castings and forgings/1986/-/1083
- Hirose Plant electronic control R&D and production/ 1989/-/1605
- Toyota Motor Kyushu CT, ES, Harrier, Highlander, HS, IS, RX, Sai, engines, hybrid-system parts/1992/ 310,000/7154
- Toyota Motor Hokkaido transmissions, powertrain parts/ 1992/-/2394
- Toyota Motor East Japan Aqua, Century, Comfort, Corolla, Isis, ist, Ractis, powertrain parts/2012/ 340,000/7441
- Toyota Auto Body Co. Alphard, Coaster, Estima, Hiace, Land Cruiser, Noah, Prius, Vellfire, Voxy/1945/ 740,000/11,615

- Meiko Center
- loading of vehicles on ships/1964/-/7
- Inazawa Parts Center receiving and shipping of parts/1978/-/67
- Oguchi Parts Center receiving and shipping of parts/1978/-/176
- Kamigo Distribution Center receiving and shipping of overseas parts/ 1968/-/300
- Tobishima Distribution Center receiving and shipping of overseas parts/ 1988/-/158
- Toyota Head Office Technical Center design, engineering, evaluation/1954/-/-
- Higashi-Fuji Technical Center engineering/1966/-
- Tokyo Design Research & Laboratory design and research/1963/
- Shibetsu Proving Ground evaluation/1984
- Toyota Central Research & **Development Laboratories** design/1960/-/-

MALAYSIA

 Assembly Services Fortuner, Hiace, Hilux, Innova, Vios, engines/ 1968/71,000/3013

PAKISTAN

• Indus Motor Co. Corolla, Hilux/1993/43,000/2305

PHILIPPINES

- Toyota Motor Philippines Innova, Vios/1989/31,000/1817
- Toyota Autoparts Philippines drivetrain parts/1992/-/1468

RUSSIA

• Toyota Motor Manufacturing Russia Camry/2007/-/1652

LEXUS FOR THE REST OF US

In addition to North America, Russia and the United Arab Emirates are the only major Toyota markets that offer the full Lexus lineup. But Toyota doesn't sell its luxury brand in every market where it enjoys prominence. No Lexuses are offered in India, Mexico, Pakistan, Turkey, Venezuela, or Vietnam.

TAIWAN

 Kuozui Motors Camry, Corolla, Innova, Vios, Wish, Yaris, engines, stamped parts/1986/167,000/4131

THAILAND

- Toyota Motor Thailand Camry, Corolla, Fortuner, Hilux, Prius, Vios, Yaris/1964/881,000/17,344
- Toyota Motor Asia Pacific Engineering and Manufacturing Co. engineering and evaluation/2003/-/-
- Siam Toyota Manufacturing Co. engines, drivetrain parts/1989/-/3225
- Toyota Auto Works Co. Hiace/2012/-/313

VIETNAM

• Toyota Motor Vietnam Co. Camry, Corolla, Fortuner, Hiace, Innova, Vios/1996/22,000/1670

AUSTRALIA

- Toyota Motor Corporation Australia
- Camry, engines/1963/101,000/4183

 Toyota Technical Center Asia Pacific Australia engineering and evaluation/2003/-/-

020 04.2015

caranddriver.com

. upfront . Prime

The doodle pad is an invaluable creative tool. We found these insightful nuggets on Ed's.

* EDITOR'S NOTEPAD

- "Justin Bieber feature story? Yes!" [scribbled out]
- · "I wonder if the meatballs would be better from a Ferrari prancing horse
- or a Lamborghini bull?"
 "Note to self: Don't trust
 D. Pund."
- To-Do list from January 3, 2009
- 1. Destroy Pontiac [crossed off] 2. Crush Saturn [crossed off]
- 3. Eliminate Mercury
- Take Cardinals and points over Steelers in Super Bowl XLIII [crossed off]

CAREERS HAVE BEEN MADE and sacrificed upon its oaken surface. Inside are the keys to the mysteries of life, love, horsepower, and editorial okayness—as well as actual keys.

It's been a stalwart foe of half-assed sentence construction and compromised punctua-

tion for generations of Car and Driver writers. Ed's desk is the great wall between the

Podium of Power

SLICING INTO THE EDITOR-IN-CHIEF'S DESK.

by John Pearley Huffman

TOP-LEFT DRAWER

- Petrified Taco Bell Doritos Locos Tacos
- 100-mpg Fish Carburetor
- · Empty liquor bottles taken from hotel minibars around the world: Frankfurt Four Seasons, The Ritz London, Rome Hilton, Sweden's Icehotel
- Pamphlet, "Safety Procedures at the Chrysler Chelsea Proving Grounds," still in plasfic wrapper
- Receipt for Don Sherman's bail
- Baggie marked: "Brown M&Ms removed from Bob Lutz's dressing room'
- Enzo Ferrari's sunglasses
- Steve McQueen's sunglasses

Framed photo of

names identified

with P-Touch labels

Handcuffs

BOTTOM-LEFT DRAWER

- · Box of unused mph
- business cards Cassettes: "Police Pursuit Music Mix Tape," volumes I-XV
- · Harvard University acceptance letter, wadded up

Stable wormhole for passage into narallel universe where there is no internet and the BMW 2002 wins all comparison tests

Carroll Shelby's original heart/penholder with

- ballpoint pens from various manufacturers, including Bricklin, Peugeot, Suzuki, Del orean and Tesla
- Somebody's M.I.T. diploma, large coffee ring over name

DESKTOP

• How To Build an Evil Secret Lair by Carlos Ghosn

Original Ten Commandments tablets

· What Not To Say on CNBC by William Jeanes Uncorrected proof: Turbo Encabulator Shop Manual by Eddie Alterman

- Cars and Trucks and Things That Go by Richard Scarry. Forward by Brock Yates calls Lowly Worm 'a raped ape
- Pontiac GTO 1964-1967 service manual

Nondescript brownpaper package, addressed to Ralph Nader

Editor-in-Chief and all lesser beings, and the souls of the men who have sat behind it have soaked into the wood's grain like linseed oil. But its current pilot, Eddie Alterman, recently adopted a leviathan that was once his father's industrial command bridge. And so the podium of power is being cut up, finally revealing its secrets.

MIDDLE DRAWER

- · Map of Mexico's Baja peninsula, water-damaged
- "My Motel 6"

Half-used can

hand-labeled "DED

Jr. Special Blend Moustache Wax

- membership card · Cat-o'-nine-tails
- Letter from Jerry Seinfeld, dated 1975, asking for an internship. Scrawled upon it in David E. Davis Jr.'s handwriting: "Just what we need." another jackass from Long Island who thinks he's a comedian.'

RIGHT SIDE

Keys: Ferrari LaFerrari; Porsche 918 Spyder; McLaren P1, F1, and M6B; all five Batmobiles; Infiniti Essence concept; AeroMobil flying-car prototype; Bullitt Aerowoon rynigcar prototype, Bolmit Mustang; Lee Majors's pickup; the mid-engine C8 mule; seven different Veyrons labeled "Sunday" through "Saturday," plus one that says "ScarJo," the A-Team van; 1964 Pontiac GTO; Mercedes W196

Ronin briefcase. Note taped to front says: "Whoa. Do NOT open that again.

Jimmy Hoffa's wallet with driver's license

Bowling ball inscribed "Specially Drilled for Dan Gurney

Don Sherman's mustache

Bob Lutz: "... an electric car with a gas engine? Goddamn brilliant!

THANK-YOU NOTES

Juan Manuel Fangio's dentures, used as a paperweight

- Ayrton Senna: "... that 'left to go right' thing? *Você é un gênio!*" Ron Dennis: "... My own road car? You
- . My own road car? You really reckon it'll work?"
- ... batteries as floorpan? You're coming with me to Mars, man!"
- Linda Vaughn: no words, just lipstick Ferdinand Piëch: "The way we feed off each other is inspiring. You're totally
- right: 917 must have a flat-12. Anonymous duck: "I couldn't believe it when you climbed down and rescued my babies from that storm drain. I pledge my breasts and legs to you."







WE ALL WANT MORE PERFORMANCE. And now you can get it with a K&N° high-flow air filter, designed to increase horsepower with up to 50% more airflow. Order yours online, spend five minutes under the hood and you're good to go.

022 04.2015 caranddriver.com

. *upfront* . do-overs

1

2

350 RECALL

Reports of battery fires caused by road debris striking the underbody of the Tesla Model S made news in early 2014. NHTSA launched an investigation, but before the agency could utter the word "recall," Tesla had already designed, tested, and implemented a solution: heavier-duty, titanium and aluminum underbody plating. However, the company still had to recall 29,000 charging-cord adapters for possible overheating.

Airbags 20,807,538

Ignition keys/switches 16,299,079

Electrical/electronics including stability control, lighting 4,964,662

4 Brakes 4,754,297

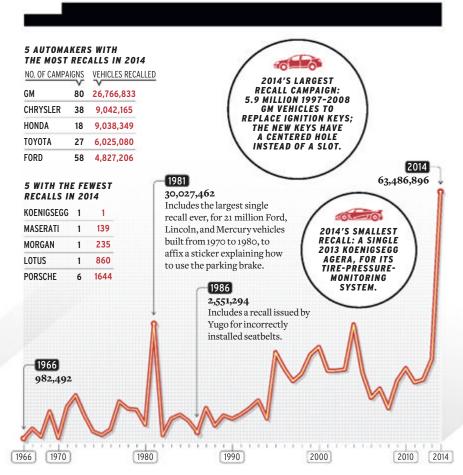
5 Powertrains including hvbrid systems 3,882,814

- Steering 2.552.484
- Fuel system, leaks 2,050,443
- **Body structure** including hitches, latches and locks, glass and mirrors 1,748,885
- Suspension 1.697.464
- Seatbelts 1,631,278
- Seats including child-seat latches 1.253.729
- 12 🗞 Engine and cooling 1.054.061
- 13 👩 Tires, tire-pressuremonitoring systems, wheels 617.223
- ¹⁴ 🗐 Accessories and labels 153,737
- 15 Throttle 19.202

Total Recal

A RECORD NUMBER OF CARS WERE RECALLED IN 2014. HERE ARE THE DETAILS. by Clifford Ativeh

LAST YEAR, automakers recalled nearly four times as many vehicles as they sold, for a record 63.5 million cars and light-duty trucks in 350 separate recall campaigns. Previously, the worst year for do-overs was 1981, when upward of 30 million vehicles were recalled. But 2014 made that look paltry. Ignition switches susceptible to heavy key rings and airbags that could explode and blast shrapnel into occupants' faces dominated the public conversation. After seeing General Motors and Honda sacrificed at the government altar with criminal probes, congressional investigations, and tens of millions in fines, the industry started "finding" lots of defects. While last year's 63.5 million will (hopefully) remain an outlier, pending legislation that would increase fines for delaying recalls will likely mean a new normal for higher recall rates. Here's how 2014's record haul breaks down.



3

5

6

8

11

13



IT'S IN THE DETAILS.

You know every inch of your bike. Not just the engine size, or the color code of the paint. It's the special details that only you know about. Like the way the exhaust opens up just right at 3,200rpm. Or that scuff on the footpeg you picked up while riding through Deal's Gap.

It's the details that make your bike unique, and no one knows this more than GEICO. With GEICO Motorcycle insurance, you'll get coverage specific to your bike, and a team of people who love motorcycles as much as you do.

When it comes to insurance, it's the little things that make a big difference. Trust the details to GEICO Motorcycle.



geico.com | 1-800-442-9253 | Local Office

04.2015 caranddriver.com

upfront . BLINDING

YOU WITH SCIENCE

* SQUINT HARDER

THE NEW SMALL — A nanometer, or one-billionth of a meter, is how much your fingernails grow each second. In scientific notation, this is 1x10⁻⁹ meters. The average human is 1.7x10° meters. The diameter of the sun is 1.4x10⁹ meters.

Your stature versus a nanotube and the sun. (Not drawn to scale.)

NANOMETER

HUMAN

Beyond Carbon Fiber

THE NEXT MATERIALS' REVOLUTION WILL BE TOTALLY TUBULAR. by Don Sherman

NOW THAT CARBON-FIBER composites have migrated from the world of blank-check motorsports to semiaffordable production cars such as the BMW i3 and Chevrolet Corvette, what's next? Is there another breakthrough material that will reset our expectations for strength, stiffness, and weight the way carbon fiber has?

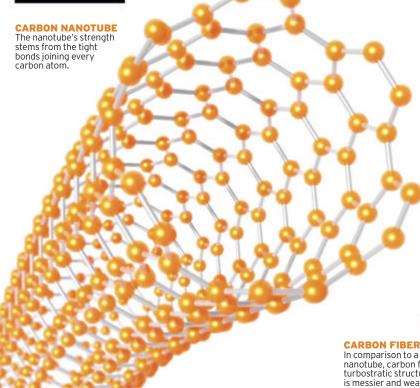
Carbon nanotubes will. Imagine a tiny pipe with walls made of carbon atoms linked neatly together. The "nano" part of the name comes from nanometer, meaning one-billionth of a meter. Each carbon nanotube is only one nanometer in diameter, which is 2000 times smaller than a carbon-fiber filament. But more significant than size are the dramatic differences in crystal structure and physical properties between carbon nanotubes and carbon fiber. Versus the nanotube's neatly organized, tightly bonded configuration, carbon fiber is what quantum chemists call turbostratic, meaning flat layers, each one a single carbon atom thick, stacked somewhat haphazardly on top of one another. The carbon nanotube's superior atomic-bonded crystal structure is what makes it the strongest, stiffest material known to man and nearly 20 times stronger per pound than carbon fiber.

Nanotubes are grown in furnaces by vaporizing carbon particles with a laser. While this isn't something you can do at home, processes are being developed to commercialize a variety of nano materials. The potential uses are vast. Massachusetts Institute of Technology mechanical engineering professor John Hart predicts that beginning the car-manufacturing process at the nano level will eventually yield lighter bodies, more-efficient catalytic converters, thinner paint, and improved powertrain heat transfer.

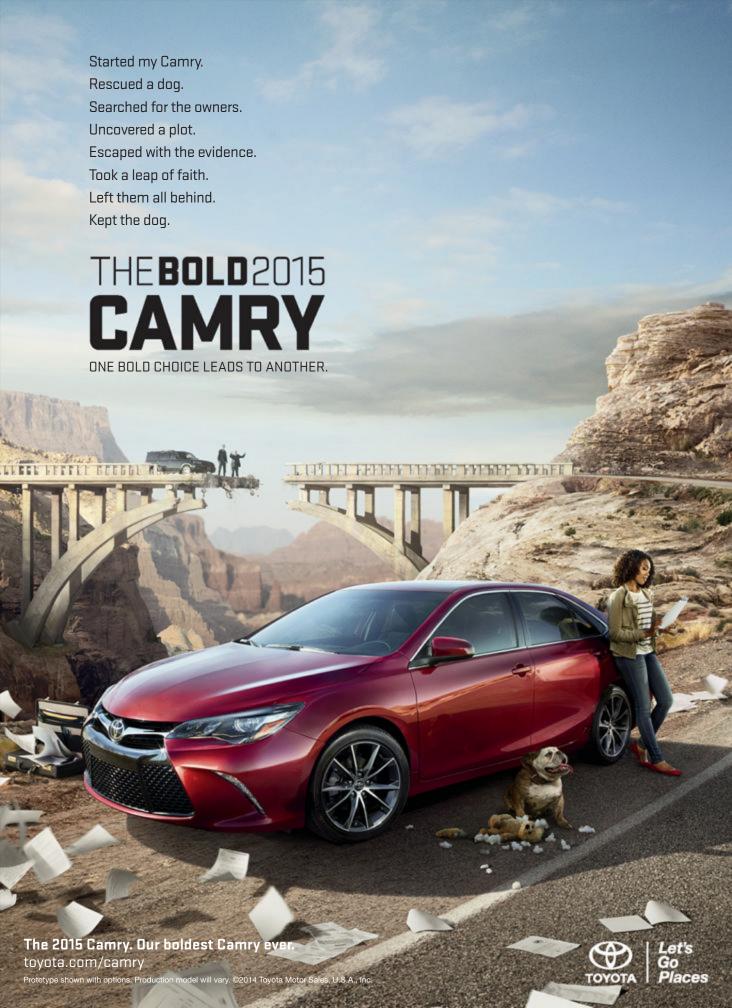
Zyvex Technologies in Columbus, Ohio, is a carbon nanotechnology pioneer with more than a decade of experience engineering materials for aerospace, marine, sporting goods, and automotive applications. The firm manufactures Arovex, which is carbon fiber reinforced with carbon nanotubes and graphene (a sheet of carbon one atom thick). Zyvex claims that Arovex provides nearly twice the fracture resistance of conventional carbon fiber. Racers use

> the company's Epovex two-part epoxy adhesive enhanced with carbon nanotubes to repair crash-damaged carbon-fiber tubs. Epovex delivers high strength, resistance to peeling, and excellent flexibility.

> Just as amazing is Epovex's price, which is roughly \$1 per ounce, or about the same as the cost of Super Glue. This does not mean that carbon nanotube-reinforced adhesives are on their way to your local hardware store. Until the health effects of nano materials roaming on and in your body are understood, they'll remain on EPA and OSHA watch lists.



nanotube, carbon fiber's turbostratic structure is messier and weaker.



02604.2015
=
caranddriver.com

. upfront . The columnists

by John Phillips

HELPING TO KILL THE SPORTS CAR.



In an interview with Bloomberg News, BMW's head of sales, Ian Robertson, recently said: "The sports-car market is roughly half of what it used to be. Post-2008, it just collapsed. I'm not so sure it'll ever fully recover."

There then followed a rancid tsunami of "Is the Sports Car Dead?" conversations, including vicious slurs, dog bites, huffy indignation, leeches, a few stabbings, and a trampoline act. It was as if yet another news-cycle bogeyman had terrified us stiff over the threat of recalls, the polar vortex, and ebola in Quietus, Montana. Of course, Robertson didn't say that sports cars were dead, merely that sales sucked. Newspapers cited the Audi TT, BMW Z4, and Mercedes-Benz SLK for having accounted for 114,000 sales in 2007 before dropping

45 percent by 2010. That's what they said.

My colleague Keith Martin, publisher of *Sports Car Market*, immediately replied, "Ask yourself why Ian would say that." Which is a good question, because maybe Robertson is a little thin-skinned these days, given the Ultimate Driving Machine's collaboration with

Toyota to build what is likely a replacement Z4 for 2018 or so. Funnythat it was Toyota that asked Subaru to build the Scion FR-S for them, a lash-up that still has marketers suggesting that the volume for sports cars maybe no longer justifies the investment. Perhaps Chrysler nowadays agrees, what with Viper sales last year falling into the Valley of Fatigue and the Conner Avenue plant going as dark as an owl's armpit.

Robertson went on to suggest that SUVs have displaced sports cars as today's testosteronated status symbols, a notion I find a little wobbly, unless he's talking about Cayenne Turbos, Land Cruisers, and Range Rovers. We surely do, however, wallow in the piggy notion that every single mobile function must be packed into every single vehicle, like Grizzly Adams's Swiss Army knife—usable on-road, off-road, as a sedan, a wagon, an errand-hopper, a minivan, and as a multi-ton pedigree of manliness. That's antithetical to sports cars, of

"The Alfa Romeo 4C's maw of a turbo inlet sounds like the men'sroom urinal at an Oakland Raiders game."

course, which began as single-purpose machines of fragile merriment whose only ancillary function was to leak battery acid and set fire to your garage. Thank God single-purpose sports cars yet exist, with the Alfa Romeo 4C shining brightly in my own woolly universe, its maw of a turbo inlet sounding like the men's-room urinal at an Oakland Raiders game. It should come with a "Sunday Use Only" label, plus a pair of anti-blur Foster Grants.

I could go on. Actually, I will. If you're worrying about the segment's death,

don't. I'm right now holding a list of all the sports cars I drove in 1992. I don't know why I still have it, but I do. There are 26 names on that list, if you'll indulge the inclusion of the Honda CRX (\$10,000 back then!) and the Cadillac Allanté (hey, a twoseater with a V-8; come on). Then I counted the sports cars that should be available this year. That list is just three names shorter, at 23. "Except what we call a sports car has changed," says Corvette impresario Reeves Callaway. "Many everyday drivers fulfill some quotient of the sports-car experience. A big part of that experience can today be transmitted by flexing, say, a Volkswagen Golf GTI."

Peter Brock, creator of the Shelby Daytona Cobra Coupe, agrees. "Today, it's progressed into a more comfortable mode of sport," he told me. "Now the real sports car is maybe the Subaru WRX."

I'm glad they said that, because on this year's list of sports cars I failed to include 10 that ought to qualify: Chevrolet Camaro Z/28, Ford Fiesta ST, Jaguar F-type R, Maserati GranCabrio, Mini Roadster, Mitsubishi Lancer Evolution, Nissan GT-R, Porsche Panamera Turbo, the aforementioned WRX/STI, and the GTI/Golf R.

"A Mini as a sports car?" I hear you sputtering while anodizing your Strombergs. Well, if a CRX qualified 23 years ago, a Mini qualifies today. Which raises my relentlessly unscientific poll of sports

cars to 33 in 2015. Take that, Robertson, you nattering nabob of negativism.

Corvette chief engineer Tadge Juechter told me, "Of course, in the U.S., CAFE laws based on vehicle size are particularly punitive to high power-to-weight vehicles," then opined that a sports car's primary role might now be as "a test bed for new technologies that make cars more efficient." Ex-Esperante builder Don Panoz added that as long as a car "is built in the hun-

dreds and not the thousands," its exclusivity alone elevates it to sports-car status. I like that notion.

Last time I owned a sports car, all my library books went overdue. If I could take over the world with, oh, let's say a very large magnet, I'd own a 4C. As it is, I am momentarily off to buy an army-green Toyota FJ Cruiser, which isn't so much Grizzly's Swiss Army knife as Bear Grylls's. So, yeah, I'm helping to kill the sports car. It may kill me, too. Or at least make me very late for dinner.



028 04.2015 = caranddriver.com . upfront . The columnists

by Aaron Robinson

* THINGS WERE GOING GREAT . . . UNTIL A TIRE BLEW, AN OIL PUMP FAILED, A FERRARI ROLLED INTO ME, AND A TREE FELL ON THE CAR.



A flotilla of four old Lamborghini Espadas and one 1967 400 GT was bound for the Pebble Beach weekend last August in a big, merry, 60-cylinder convoy. However, the scheduled midday departure from L.A. was frantic due to a last-minute need to replace my Espada's Girling brake boosters, which were weeping as if Jimmy Swaggart had been a previous owner. Luckily, my pals Bob Huber, who personally rebuilt his Espada from a written-off wreck, and Laust Pedersen, a mad scientist who modified his Espada with fuel injection and catalytic converters (after adding turbos to his other car, a Lamborghini Jalpa), had a spare pair. The only problem, they told me, was that the boosters didn't work very well. And sometimes they locked and didn't want to stop working. I bolted them in.

This is normal Espada pre-travel procedure. The last time I took my car to Monterey, I had to replace all six Weber carburetors during the trip. After I got home, reeking of gasoline, I had to pull the engine and rebuild it. I also had to rebuild the suspension and the brakes and replace the radiator and rewire the cooling fans and replace the exhaust sys-

tem and change several light bulbs. If you haven't driven an old car to the Monterey weekend, however, you've missed at least 27 percent of the fun of going. Parking rules relax for classics as militant valets stand aside. The cops just give you a wave as you pull an illegal, ninepoint U-turn while traffic waits. You can park on lawns and sidewalks and drip oil onto Carrara marble and nobody yells at you. Thousands of people you've never met will see your cool old car and think its owner is also cool, even if at that very moment you are some-

where else dribbling cocktail sauce down a silk shirt.

Departing Los Angeles, our gaggle of old Lambos made a fabulous sight, buzzing the left lane of the freeway like five spaceships from the planet Awesome. Then, about 40 minutes later, it all went flooey. First, Mike Trivich's '69 Espada blew a tire. The convoy broke up in traffic trying to circle back in response to his distress call. As we were sorting out Mike, the phone



With 17 quarts, a leaky Lambo is a one-car Superfund site.

buzzed. Jack Riddell in his 267,000-mile 400 GT was up the road, both overheating and spewing oil.

Jack has owned his car since 1972 and driven it from his home in San Diego to Pebble Beach 34 times. A couple years ago his engine dropped a valve seat, blasting a fist-sized hole in the cylinder head. He rebuilt the V-12 in his garage according to a thick manual that he himself wrote, then put another thousand miles of testing on

the car before leaving for Monterey. Jack is the closest thing our odd little religion has to a living god.

We mustered the Espadas and headed up the road to meet him. The 400 was at a gas station near Santa Barbara, where it looked like the *Exxon Valdez* had beached in the parking lot. After some diagnosis, it was determined that an oil-pump seal had failed catastrophically and there was no way to continue. We stashed the car, Jack and his gear piled into one of the Conestoga-like Espadas, and we continued on in the encroaching darkness. At our Pismo Beach layover, we realized it had taken nine hours to cover 200 miles.

The next morning, the four surviving Espadas roared into Monterey, but the excitement wasn't over. While waiting in traffic on a narrow side street in the seaside burg of Carmel, a truck charging in the opposite direction sheared off much of the tree canopy above me. Suddenly I was in a monsoon of moss, pine cones, twigs, maybe a nesting pair of bald eagles, and branches, which crashed onto the roof and hood and poured through the open windows. Somehow, only scratches. A few hours later, a Ferrari 575M slipped its parking brake and rolled into my car, its plastic, federally mandated 5-mph bumper putting a shiatsu twist into my pre-everything, zero-mph bumper. The owner proved honorable, however, and offered compensation.

> There were car shows and races and lots of quaffing of Lamborghini vino with Valentino Balboni, the only Lambo employee ever to have a car named after him, a distinction he shares with such industry luminaries as Edsel Ford. A highlight was meeting Evo magazine founder Harry Metcalfe, whose drive of his own Espada down to the south of France is some of the internet's best Espada porn. On Monday morning, the caravan departed for Santa Barbara, where Jack's 400 had been left in an oily puddle. Parts had arrived and so repairs

commenced, with our can-do mood helped by the fact that a 400 GT had sold at auction the day before for more than \$800,000. At one point, *C/D* contributor John Pearley Huffman, who lives nearby, showed up with a bag full of much-appreciated ice-cream bars, plus two giant Alaskan snow beasts that are his dogs, apparently. Hours later, our brigade of limping Lambos, restored to full strength, sallied forth into the night toward home.



DRIVER-CENTRIC ENGINEERING:

POWER & EFFICIENCY

The latest advancements in fuel-saving, power-boosting and suspension technologies work in harmony. The 2.5L engine offers an EPA-estimated 25 MPG city/36 hwy. The available 2.0L Turbo offers an impressive 295 lb.-ft. of tarque.

2.0L Turbo

POWER BOOSTER

The available turbocharged ECOTEC* 2.0-liter, like the 2.5-liter engine, also has double overhead camshafts and continuously Variable Valve Timing. The 2.0-liter has a turbocharger that helps generate 259 horsepower and a best-in-class 295 lb.-ft. of torque that's available at engine speeds as low as 3000 rpm.



Malibu 2.0L	295 torque
Audi A6 2.0L	258 torque
BMW 5281	260 torque
Porsche Cauman	213 torque

2.0L Turbo PERFECTED POWER

In an engine's combustion cycle, timing is everything. The available ECOTEC 2.0-liter turbocharged engine has nitrided intake valves. The sodium-filled stems of the exhaust valves enhance heat transfer, maintaining a lower, more uniform valve temperature, reducing valve guide wear and improving valve seat wear.



6.0 0-60



2.0L Turbo & 2.5L Engine

COOLER, CONDUCIVE, QUICKER

Direct Injection helps reduce cold-start emissions and allows for a higher compression ratio. Direct injection helps cool the overall intake process, allowing for higher boost from the ECOTEC 2.0-liter engine's turbocharger.



COLD-START EMISSIONS



2.5L Engine

SEAMLESS OPERATION

Intake Valve Lift Control technology enables variable intake valve lift, duration and timing over a wide range of engine operation. "Intake Valve Lift Control works so seamlessly, drivers aren't likely to notice it at all," sald Mike Katerberg, Chevrolet global chief engineer for ECOTEC engines. "What they will notice is a fuel savings of up to one mile per gallon, offering an EPA-astimated 25 city/36 highway."

25

36

Intelligent stop/start technology, Intake Valve Lift Control and a 6745 transmission all contribute to the 2.5-liter's EPA-estimated fuel economy.

2.5L Engine

INTELLIGENT STOP/START TECHNOLOGY

Under certain conditions, the engine turns off at a stop and seamlessly starts again as soon as you lift your foot off the brake. The intelligent stop/start technology — along with other advancements such as Direct Injection and Variable Valve Timing — can increase city mileage by more than 10 percent for an EPA-estimated 25 MPG city. The stop/start technology uses a reinforced Absorbent Glass Mat (AGM) starting battery. There's a beefed-up tandem-solenoid starter motor and even an auxiliary battery located in the rear of the car — plus an electric hydraulic pump keeps fluid circulating through the transmission to make sure it's always pressured and primed.



ENGINE ENGAGED
As soon as the brake is released, the engine

engages, virtually in an instant.

2.OL Turbo
SPECIALLY TUNED
SUSPENSION

The fortified chassis includes a specially tuned suspension, as well as a revised brake booster that enhances pedal feel. The 2.0-liter turbocharged Mailbu turns and stops like a performance car too.



2014 CHEVROLET MALIBU, J.D. POWER'S "HIGHEST RANKED MIDSIZE CAR IN INITIAL QUALITY."





032 04.2015 = caranddriver.com . ${\color{red} {\it upfront}}$. The columnists

by Ezra Dyer

A LETTER TO TESLA, FROM YOUR FRIENDLY LOCAL CAR DEALERS.



Dear Tesla.

I write to you from the law offices of Dwayne & Johnson on behalf of my client, the Totally Useful Retail Dealer Society. As the nation's largest association of car dealers, my client objects to your omission of such dealers from your business plan. I hereby order you to cease and desist! Or just cease. Or desist. We can discuss the options. See, that's a situation known as "negotiating." Something you wouldn't know much about, Tesla.

Allow me to explain the myriad ways in which your dealerfree sales approach is misguided. First of all, our research shows that 85 percent of car shoppers love going to the dealer, while 15 percent super-duper love it. [Note: Respondents to

our survey were all under the age of 8, and the words "car dealer" were replaced with the words "Disney World," a fact that was clearly explained in the fine print of Appendix 8c.]

I'm telling you, people love negotiating. Consumers hate having a clear, fixed price that everyone understands. The dealer-franchise model lets them feel as if they got a

deal, while not really getting a deal. Everyone wins. And haggling over prices is deeply ingrained in American culture. I mean, Moroccan culture.

Now, you may enjoy selling your cars with no middleman and just keeping all the money. But I ask, have you considered letting us have some of that money? It is our position that we would like some of the money. In return, we will have buildings with desks inside and some garage bays where we'll do oil

changes while customers watch *The Price Is Right*. What, you don't need oil changes? Well, we'll think of something along those lines. Maybe it's like, electron refurbishment every three months. I just made that up, but it sounds right.

I'm telling you, Tesla, your customers need us. What happens when they're driving their new Model S and a taillight goes out? Okay, yes, you'll email them one to print on their home 3-D manufacturing apparatus. Tesla owners are pretty techy. What if that happened to a Lexus ES350

"Have you considered letting us have some of that money? It is our position that we would like some of the money."

owner, though? Our research shows that Lexus owners visit the dealer an average of twice a month, for reasons including "bugs on the windshield" and "my grandson put the Skrillex disc in the radio and now I can't get it out."

Speaking of Lexus, they're on our side, just like every other car company. GM loves us, that's for sure. GM stands shoulder to shoulder with dealers, united in opposition to Tesla's franchise-flaunting ways. They issued a statement saying: "If we have to have dealers, then Tesla better

damn well have some dealers. Sure, we'd love to just sell you a Cadillac direct on the internet, but our dealers won't let us. Isn't that crazy? We do the research and development and design and manufacturing, and we have factories and production lines and test tracks. And then some guys with bad coffee and overpriced wiper blades dictate how we can sell our products. It makes us so mad that sometimes we get passive-aggressive and punk them with something like the Cadillac ELR. You're so good at selling, let's see you try to sell that!"

Okay, so our relationship with GM is complicated. It has been ever since they launched Saturn, an entire brand based on the notion that the dealers wouldn't savage you. It's hard to believe now, but people would actually walk into a dealership and buy a Saturn Ion just so they wouldn't have to meet a Plymouth salesman. That humbling realization prompted us to create a robust ethics certification process, the Dealers United Professional Education Seminars. Salespeople certified under this course are courteous, professional, and required by law to disclose how many felonies they've committed. It's progress.

We know you see yourself as a disruptor, Tesla, but I don't think you understand how many people you're disrupting. Car dealerships are financial ecosystems in their own right, spurring economic activity in a range of related sectors. The

inflatable-dancing-guy industry depends on car dealers, as does the low-budget family-TV-commercial business. Think about how you're missing out on that one. Scene: An older guy in a showroom says, "Come on down to the Teslathon and you're gonna be *shocked* at our prices!" Then a younger woman standing next to him rolls her eyes and says, "Daaaad." You know, like she's embarrassed, but really they all love each other.

In conclusion, Tesla, I'd hate myself if I let you leave here without the peace of mind of an extended warranty, so I'm going to talk to the sales manager and see if we can't do that for just an extra \$53 per month over your 95-month loan.

Man, I really think we're gonna be friends even after you sign this paperwork, Tesla. We definitely have to hang out. I just need to go finalize your undercoating insurance with my manager, so if you want, you can just go get comfortable in our lounge. I think it's almost time for the Showcase Showdown.



"THE NEXT GENERATION OF HYBRID" ...AND UNDER \$100

Timepieces International brings you the incredible Daniel Steiger Lazer Blue Watch. In our opinion, the best looking hybrid watch on sale! What's so incredible about the Daniel Steiger Lazer Blue? As well as having an ultra modern look and style, this amazing watch is packed full of features and functions and is available in 18k Yellow Gold fused two-tone or classic steel colored version. This fantastic watch features a metal case structure, digital format windows showing 24hr, days of the week, seconds with an easily accessible alarm system. This incredible watch is robust enough for those always on the move, and yet made with comfort in mind with a modern sporty look. But perhaps the most stunningly cool feature of this astonishing timepiece is its lense. The Lazer Blue Crystal gives this magnificent watch a truly unique look. Integrated into the crystal itself the Blue Lazer coloring takes the look of this watch to another level. The level of AWESOME! What else is awesome about this fantastic watch? Quite simply its price. At an incredible \$99 (plus shipping and handling). This is a unique buying opportunity not to be missed! Limited stock available.

- Lazer Blue Crystal Face
- Luminous Markers & Hands
- Two-Tone 18K Gold Plated
- Alarm & Stopwatch
- Digital & Analogue Displays
- Magnificent Presentation Case Included
- Water-Resistant To 3 ATMs
- Backlight Display
- Seconds Display
- Day Indicator
- Metal Band
- 5 Year Unlimited Movement Warranty

CALL OUR CREDIT CARD HOTLINE NOW, TOLL FREE 24/7 ON 1-877 550 9876

And Quote Promo Code:

30 DAY MONEY-BACK GUARANTEE

CD153LZB

5 YEAR MOVEMENT WARANTY

OR order online at www.timepiecesusa.com/cd153 and enter code CD153LZB



Continental Tire. For what you do.



vending machine performance has with a dominant, forceful, dazzling

America. The cars on the following pages are incontrovertible proof.

that neon-lit

underwear-

Japanese

to compete

power-mad

Germany and a

firing back up.

returned, ready

The Land of the Rising Sun, chastened and humbled so many times throughout its history, looked as if it had gone dark indefinitely. No more joy. In the wake of the global recession, the Fukushima meltdown, and roughly a dozen more natural and

man-made disasters, it seemed that Japan had lost its fight, and that a new Acura NSX would sit forever in the Nordschleife runoff area, burning in biblical perpetuity.

But what's that we see peeking over the horizon? Yes, it's that old sun rising again, that island ronin reawakening,

japan fights baci

Mission Creeper

Repeatedly rewired in flight, the future NSX sure isn't what it used to be. by Aaron Robinson

//////



e

U

2.

e

w

Acura clearly wants to get this thing right.

The original aluminumintensive 1991 NSX was a stunner, a sunrise of engineering inspiration that chased away the darkness in the realm of sports cars and laid bare the multitude of sins being committed there. For the first time, a large automaker that took quality seriously had

applied itself to a segment rampant with all manner of pop-riveted, glued-up, hammered-down, and wiggy-wired silliness. In the presence of the \$60,000 NSX, the self-important air-puffed mediocrities of the eroti-car industry scurried for cover.

It didn't last.
Everybody else
got better, with
newer and faster
cars, while the NSX
mainly just got
more expensive,
chained as it was to
the rapidly

inflating yen. The final targatopped NSX went off the line in 2005, and hardly anybody noticed. Since then, Acura has launched, scrubbed, relaunched, rescrubbed, and re-relaunched projects intended to replace it. In the first two tries, the car got as far as a fully styled and drivable prototype, which in NASA parlance is 30 feet above the moon, before Acura aborted.



There was that coupe with the V-10 in its big schnoz screaming around the Nürburgring in 2008. Corporate canned it later that year, figuring out something that Toyota never did during development of the Lexus LFA: An interstellar unicorn that is seriously into six figures will do little for a brand that sells most of its vehicles for less than \$50,000. The next attempt was a Porsche 911 fighter. It was a mid-transverse hybrid that plucked the parts bin for a version of Honda's ubiquitous 3.5-liter V-6. Concept cars were shown, Jay Leno and Jerry Seinfeld made a Super Bowl ad for one of them, and a fully clothed prototype circled Mid-Ohio in August 2013 in front of thousands of IndyCar fans.

But even as NSX version 3.0 made its first glory laps, Acura had already decided to scrap major elements of the design. According to NSX project leader Ted Klaus—notably not a Japanese citizen, for this project is U.S.-based-it was in mid-2012 that "the performance targets were changed." Meaning upped considerably, to confront an era in which Nissan GT-Rs have more than 500 horsepower and a Dodge Charger can make more than 700. According to Klaus, the transverse, singlecam 3.5 was maxed out trying to make just so-so power, which didn't give the NSX any room to grow. So it was back to the CAD stations for changes.

Out went the shared 3.5 and in went an all-new, longitudinally mounted, drysump, twin-turbo, four-cam, 75-degree

Specifications VEHICLE TYPE:

mid-engine, twin-frontand mid-motor, 4-wheeldrive, 2-passenger, 2-door coupe BASE PRICE:

\$150,000* ENGINE TYPE:

twin-turbocharged and intercooled DOHC 24-valve 3.5-liter V-6 MOTOR TYPE:

F: two permanentmagnet synchronous AC R: permanent-magnet synchronous AC

TOTAL SYSTEM POWER: 560 hp* TRANSMISSIONS: F: 1-speed direct drive

R: 9-speed direct drive R: 9-speed dual-clutch automatic with manual shifting mode DIMENSIONS WHEELBASE: 103.5 in

LENGTH: 176.0 in WIDTH: 76.4 in HEIGHT: 47.8 in CURB WEIGHT: 3700 lb*

PERFORMANCE*
ZERO TO 60 MPH:
2.7 sec
ZERO TO 100 MPH:

1/4-MILE: 10.8 sec TOP SPEED: 190 mph

*C/D estimated.



visible under the rear

glass and weird mesh thingy. Below: A wallto-wall brake-lamp

strip is a styling nod to the original NSX. The trunk will accept one set of golf clubs,





and a third motor teamed with a nine-speed dualclutch transaxle.

The upside of the engine swap is more power; the downsides are huge increases in cost and complexity, plus a decentralizing of the powertrain mass.

The car's styling has also morphed, the changes including another radiator opening up front and much larger corner and side ducts, plus a couple of hood vents, all to service 10 separate cooling circuits with airflow. Undoubtedly, curb weight is up as well, probably to around 3700 pounds, though the final figure is still guarded.

Indeed, Acura is drip-dripping the details on this car, but we know that the 2016 "New Sports eXperience" is considerably wider than the original while surprisingly not much longer, given its new north-south powertrain. Its 103.5-inch wheelbase is just a 3.9-inch stretch from the



2005 NSX, while overall length grows by only 1.8 inches, providing a trunk roomy enough for a set of golf clubs. However, the spec Klaus is perhaps most proud of is the center of gravity, said to be more than an inch lower than the original NSX's.

The new space-frame structure, joined by self-piercing rivets, flow-drill screws, welding, and lots of adhesive, is described as aluminum-intensive. That means there's also high-strength steel in the superthin A-pillars (another point of pride for the NSX team) and a carbon-fiber floor panel.

Acura uses a supposedly novel—also undisclosed—aluminum-casting technology for part of the rear subframe, providing ample stiffness with low weight. The hood and doors are aluminum while the fenders are SMC (sheet molding compound, a common form of fiberglass). Buyers have the option of an aluminum or carbon-fiber roof.

Acura describes the suspension as "conventional multilinks" enhanced with magnetorheological self-adjusting dampers. Buyers can opt for carbon-ceramic brakes, though four-wheel steering has been left off, we're told, in the interest of low mass. Continental ContiSportContact 5P tires, sized 235/45 up front and 295/30 in back, will mount on 19- and 20-inch wheels, respectively.

In principle, the NSX operates like a Porsche 918 Spyder, able to drive electrically or on engine torque alone, though the first mode is mainly a gimmick. One big electric motor located at the front of the transaxle can power the car up to 50 mph for a few miles in a quiet mode. The lithium-ion battery pack behind the seats is too small to supply more. On the front axle, the "Twin Motor Unit" drives each wheel separately through planetary gear-

sets that allow the motors to provide torque-vectoring capability in concert with the brakes at the rear. Four driver-selectable modes—quiet, sport, sportplus, and track—progressively ratchet up the car's aggression level.

Lots of money and effort was flushed in the pursuit of what Klaus calls "a humancentered supercar," but the end result, designed and built in Marysville, Ohio, will be a technical thunderclap destined to reach customers before the end of the year. This latest iteration, let's call it version 3.5, shows who won the marketing struggle over where to drop the marker: the guys originally proposing the Amex Centurion NSX. The '16 NSX will start around \$150,000 and probably sell closer to \$170,000 or \$180,000 with options. An even hotter version (a Type R, perhaps?) will arrive later and perhaps break the \$200,000 mark. Sitting right beside this new NSX in Acura showrooms will be the brand's next-most-expensive car, the RLX sedan, with a current base price of \$49,370.

Will Acura be able to put enough of these assuredly fabulous NSXs on the road to in any way help the brand's sleepy image? That may be the next big challenge.

Hai **Performance**

For more than half a century, the Land of the **Rising Sun** has been an intermittent source for engaging and often affordable performance. by Don Sherman

Datsun's Sports (Fairlady in Japan) 1500/1600/2000 roadster begins as an MG Midget-like fiberglass-bodied convertible and evolves into a crack SCCA road racer.



Toyota teams with Yamaha to build the 2000GT Japan's salute to the Jaguar E-type. • Mazda's Cosmo coupe introduces this brand's distinctive Wankel engine.

Back in the day, we call Mazda's Wankel-powered RX-2 and RX-3 supercoupes. Our IMSA RS exploits in the RX-2 get rotaries banned; we set a 160-mph Bonneville record in the RX-3.

Datsun's Maxima sports sedan borrows powertrain components from the 240Z. We turbocharge one for Paul Newman. • Mitsubishi's Starion 2+2 joins the performance fracas with rear drive, turbocharging, and a garbled name.



Mazda's Lotus-inspired MX-5 Miata is a sensation that eventually becomes the world's favorite roadster. Infiniti's introductory offering, the Q45, is a sports sedan touting four-wheel steering and, later, semiactive suspension. · To curb enthusiasm, Japanese carmakers agree to limit domestic engine output to 280 horsepower.

The last gasp for rotary power is the RX-8, with too many doors and a back seat. • Japan's auto manufacturers association eliminates its long-standing 280-hp limit.

The Mitsubishi Lancer

Evolution VIII arrives stateside with Brembo

brakes, Bilstein shocks,

fiber rear wing.

and a provocative carbon-

2003

Z000
To celebrate its 50th birthday, Honda blesses sports-car admirers with the light, lively S2000, powered by a 9000-rpm 2.0-liter VTEC engine.



Feeling unusually frisky, Lexus distills lessons learned at the track into 500 **LFA** supercars powered by a 4.8-liter V-10 giftwrapped in carbon-fiber bodywork. In spite of astronomical prices, Toyota probably loses money on the project.

1963

Honda's first car is the 1500-pound S500 roadster powered by a tiny DOHC inline-four with a 9500-rpm redline. One motorcycle influence: chaindriven wheels.



Toyota's first sports car, the Sports 800, has 44 horsepower and a removable targa-roof panel.

1968

Datsun's Bluebird/ 1300-1600/510 sedan is a reformulated BMW 1600.

Datsun stretches its hot streak with the gorgeous Fairlady/240Z. The first edition, with a SOHC inlinesix and independent strut suspension, all but kills affordable British and Italian sports cars in the U.S. On the home front, the Skyline GT-R sports coupe marches onto land. Twenty years later it earns

The Toyota Celica embellishes the Datsun Z formula with a back seat. After a homely start, it receives attractive styling and a turbo bump to more than 200 horses. • *Mazda's RX-7* combines rotary power, a light two-seat body, and compelling pricing. We race one at Daytona and hike our Bonneville speed over 180 mph.

the nickname "Godzilla."



Inspired by Ferrari, the mid-engined Toyota MR2 coupe and spyder begin a long run as this brand's break from boredom.

The third- and last-generation Mazda RX-7 arrives with seguential turbocharging, improved dynamics, and stunning bodywork. • Subaru's distinctive

SVX sports Giugiaro design, a 3.3-liter flat-six, and four-wheel drive. The brand's Impreza WRX brings turbocharged World Rally technology to the street (the U.S. waits a decade for the WRX).

Si editions for Honda's Civic, CRX, and Prelude up speeds and handling prowess. • Mazda's second gen RX-7 arrives with an optional turbo, prompting our return to Bonneville for a 238mph record.



Acura's **NSX** salutes Ferrari with a sleek aluminum body and a hot 3.0-liter, 8000-rpm V-6 equipped with a variable-timing-and-lift valvetrain. (Borrowed from motorcycles, Honda's VTEC system first appeared on four wheels in the 1989 Acura Integra GS-R in Japan.)

Elevating its performance cachet to uncharted heights, Nissan launches the mighty *GT-R* with a twin-turbo V-6 and four wheel drive, and adds a video-game dash for fun. • Lexus drops the F-bomb-its IS F is a strategic road

weapon disguised as

a family sedan.

The Scion FR-S and Subaru BRZ fraternal twins are an odd pairing, but who'd whine about fresh, affordable rear-drive sports coupes?

2015 Sending a Ford Mustang to M.I.T. would yield something like the Lexus RC F, a sports coupe steeped in power, performance, and panache.





Advanced Miata geekiness: The side-mirror caps on GT versions are body color. Sport and Club models get black caps.

mazda mx-5

Toy Story

Mazda's latest sports car is for ages 16 and up. by Tony Quiroga

//////

photograph by Paul Barshon There's comfort in the latest Miatasorry, MX-5.

It's not the comfort of plush leather seats, a soft ride, or opera windows. It's the comfort of knowing that Mazda's fourth-generation two-seat roadster steadfastly remains a Miata.

The MX-5 is sui generis partly because of its size and the toylike character that size confers. As the world around it

grows—cars are bigger, mediums are larger, waistlines are rounder, SUVs still exist—the defiant Miata retains roughly the same dimensions of the 1990 original. What did you look like a quarter-century ago?

Even more impressive, the new MX-5 has actually dropped a pants size versus the previous, third-generation car. It has a shorter wheelbase and is nearly a half-inch lower.





But if the car looks and feels trim, it seems bigger inside. Cabin space is better conceived and allotted than before, the seat reclines farther, and there's nearly a third of an inch more headroom. The steering wheel tilts but doesn't telescope, the sills are slightly higher, and the seats are lower by nearly an inch. In the last Miata, a high seat and low doors gave the driver the impression that he was on top of the car instead of in it.

Despite the deeper seating position, forward visibility is excellent. The hood is more than an inch lower than before—thanks to an engine moved back half an inch and a lower-profile oil pan that brings the engine down by a half-inch—while tall fender creases make the car easy to place on the road. Revving under our right-

Somehow, despite the hundreds of ways it could have gone terribly wrong, Mazda has managed to not screw up the Miata for a quarter of a century. The trimmer, lighter fourth-generation car is proof of that.



hand-drive test car's plunging hoodline is a new 1.5-liter four-cylinder direct-injection gasoline engine that will be standard in the rest of the world. That little four makes 129 horsepower at 7000 rpm and 111 pound-feet of torque at 4800 rpm. Willing and happy to rev to its 7500-rpm redline, the 1.5-liter builds power steadily and never emits a coarse tone. Great shifters are a Miata tradition, one that continues here: A six-speed with delightfully short throws is seemingly drawn into each cog. First gear is good for 36 mph, second redlines at 61 mph, and third goes to 88 mph. With the 1.5-liter engine, we'd estimate a zero-to-60 run would take iust over seven seconds.

The U.S. version is likely to be a bit quicker. We'll be skipping the turbine-smooth 1.5-liter engine in favor of a 2.0-liter version similar to the one in the CX-5. Adapted for the MX-5's longitudinal orientation, the 2.0-liter will get a different intake manifold, exhaust system, and cylinder head. Mazda is as tight-lipped as the NSA when it comes to the 2.0-liter, but we at least got officials to divulge that the American Miata will have 155 horsepower and 148 pound-feet of torque when it arrives this summer.

The 1.5-liter cars we drove in Spain were equipped with 16-inch wheels wearing 195/50R-16 Yokohama Advan Sport V105



Specifications VEHICLE TYPE:

front-engine, rear-wheel-drive, 2-passenger, 2-door convertible BASE PRICE (U.S.): ENGINE TYPE: DOHC 16-valve Atkinson-capable inline-4, aluminum block and head, direct fuel injection DISPLACEMENT: 91 cu in, 1496 cc POWER: 129 hp @ 7000 rpm TORQUE: 111 lb-ft @ 4800 rpm TRANSMISSION: 6-speed manual DIMENSIONS WHEELBASE: 91.1 in .ENGTH: 154.1 in **WIDTH:** 68.1 in HEIGHT: 48.6 in **CURB WEIGHT:** PERFORMANCE* ZERO TO 60 MPH:

ZERO TO 100 MPH:

TOP SPEED: 115 mph

22.1 sec 1/4-MILE: 15.8 sec

*C/D estimated.

OE tires. Thus equipped, grip is excellent and the tires don't squeal, no matter how hard you pound their little faces into the asphalt. And when the grip goes, the MX-5 slides steadily and is easy to catch, thanks in part to its low mass. The highly boosted steering is quick and rewards a light touch, all of which adds to an impression of extreme smallness.

Mazda engineers tell us they've pur-

Mazda engineers tell us they've purposely built a bit of initial compliance into the suspension to give the driver an awareness of load transfer during cornering. What that means: When you turn the wheel, the body squirms slightly before taking a set. Eliminating the squirm would make the car tighter, more precise, and more responsive to steering inputs. We'd like to see such a tweak for the hoped-for Mazdaspeed version.

The car that comes stateside will have optional 17-inch wheels and 205/45R-17 tires. Maybe the plus-sizing is necessary because, today, 16s are the new 13s. Our MX-5 also will get slightly larger brakes that barely fit inside the 16-inch wheels. That wider rubber will be working through a control-arm front suspension and a multilink rear suspension.

Weight is a claimed 2200 pounds for the 1.5-liter version, but there's no definitive word on the mass for the American-spec





To sharpen agility, the fourth-generation Miata's wheelbase is 0.6 inch shorter and Mazda trimmed the overhangs by 1.8 inches. Seating positions are 0.8 inch lower and 1.2 inches closer together. Wider use of highstrength steel and aluminum cuts a claimed 150 pounds.



version. Historical note: The 1990 Miata we tested with optional A/C and power steering weighed 2210 pounds. To keep off the fat, Mazda used aluminum more extensively than before. The previous Miata had an aluminum hood, trunklid, body brace, rear knuckles, and front suspension arms. In addition to those lightweight pieces, the new MX-5 uses aluminum for the front fenders, front knuckles, convertible-roof supports, rear bulkhead and roll hoops, front and rear bumper beams, and three structural reinforcements. The center of gravity drops by nearly a quarter-inch. We predict that our U.S. version will weigh in under 2400 pounds.

Since the Miata's arrival 26 years ago, sports cars have slowly grown into giants. Bigger cars may have bigger engines, they may carry passengers more comfortably, and they might sell better in China (and everywhere else for that matter). But it's gratifying to know that the Miata continues to stay true to the original, which itself stayed true to the Lotus Elan. It's still a small sports car. It's still big fun. It's still a toy. Best of all, it still makes us happy.





A **CAR AND DRIVER** TRICKED OUT DIGITAL SUBSCRIPTION CONNECTS YOU TO THE LATEST RIDES, GEAR & INDUSTRY NEWS ANYWHERE, ON ANY DEVICE, 24/7.

- "TAKE" EVERY ROAD TEST & FIRST DRIVE FIRST— BEFORE THEY HIT NEWSSTANDS
- > GET IN ON AUDIO & VIDEO DIGITAL EXTRAS
- ENJOY INTERACTIVE 360° VEHICLE VIEWS, SPEC SHEETS & MORE

WHAT'S HOT ON THE ROAD...ON THE GO.



infiniti a60

The Redeemer

Whatever happened to Infiniti's great-driving coupe? They're working on it. by Jeff Sabatini

//////

photography by Robert Kerian Infiniti's hot, Nissan GT-R-powered Q50 Eau Rouge concept is dead. Cooler heads have prevailed now that itinerant luxury czar Johan de Nysschen has decamped for Cadillac. So shed some tears. Pour some Red Bull on the curb. But grieve quickly because Infiniti has something more tangible—and more important—coming relatively soon.

The Q60, on sale next year as a 2017 model, is Infiniti's answer to Audi's A5, BMW's 4-series, and Mercedes' C-class coupe. Like that German triad, the Q60 will offer a choice of turbocharged four-and six-cylinder engines. The four will be nearly identical to the 241-hp 2.0-liter found in the C-class, as this product of the partnership between Daimler and Nissan-Renault will be built on Nissan's engine line in Decherd, Tennessee, which is already shipping engines to the Mercedes plant near Tuscaloosa, Alabama.

The turbo 3.0-liter V-6, however, is Nissan's own design and brings direct injection to compact Infinitis for the first time. Output will be around the same 330

Specificaions VEHICLE TYPE not-

engine, rear- orwheeldrive, 4-passger, 2-door coupe BASE PRICE: \$40,000-\$5500* ENGINES:

ENGINES: turbocharged and intercooled DOHC 16-valve 2.0eit inline-4, 241 pp73 lb-ft; twin-turbocherd and intercooled DOHC 24-valve 3.0eitV-6,

330-400 hp* 270-350 lb*ft **TRANSMISSION:**

7-speed automatic with manual shifting mode DIMENSIONS WHEELBASE2.2 in LENGTH: 184in WIDTH: 7344 HEIGHT: 59in CURB WEIGHT

CURB WEIGHT 3700-4000 lb PERFORMAN©E ZERO TO 60 MPH: 4.6-5.6 sec ZERO TO 100 MPH: 12.0-14.1 sec 1/4-MILE: 2314.2 sec

TOP SPEED40 mph

*C/D estiment.



horsepower as today's naturally aspirated 3.7-liter VQ V-6. And turning up the boost on the twin turbochargers will allow Infiniti to sell a hotter version of the Q60 with an estimated 400 horses. A seven-speed automatic (sorry, no manual) will send power to either the rear wheels or all of them with optional four-wheel drive, just as in the Q50 sedan.

Since the new Q60 is based on the Q50's architecture, its new powertrain hardware will appear on the sedan concurrent with its mid-life-cycle refresh, also for 2017. The Q50's hybrid system, however, won't be available in the two-door, as Infiniti wants to play up the Q60's sportiness. Such ambitions will require improvements to the Direct Adaptive Steering system, the much-derided steer-by-wire technology that made its debut on the Q50.

Infiniti recognizes it has a problem, and efforts are underway to fix the steering before the Q60 hits dealerships. The calibration for the Q50 has already been revised once, and development engineers have been driving a prototype Q50





equipped with the hydraulically assisted rack-and-pinion setup from the old G37 Sport as a benchmark for the Q60's electrically assisted steering.

Speaking of the G37, Infiniti is still selling it . . . as the Q60, confusingly enough. But there's nothing unclear about the intention behind the Q60 concept unveiled at Detroit and pictured here: It is a dramatic departure from its predecessors. Everywhere the current coupe is plump, the Detroit show car is creased, taking the basic theme of the Q50 to the extreme. Nowhere can this be seen more clearly than in the enormous grille that dominates the 60's scowling face. Indeed, the Q60 will be the more extroverted of the pair of Infinitis. Compared with the dimensions of the current G37, er, Q60, the Detroit concept is roughly an inch longer, an inch and a half wider, and an inch lower.

Infiniti says the new production model will mimic the concept, delivering 90 percent of what you see here. It is a beguiling car. If not exactly beautiful, it's certainly striking. While the Q60 doesn't look much like the original G35 coupe from 2002, it is envelope-pushing in the same way that old car was in its era, when it began building the brand's credibility with enthusiasts.

Infiniti says it is still serious about building drivers' cars. We might have taken a production Eau Rouge as proof. And maybe, eventually, Infiniti will resurrect the idea and commit. Let's hope the Q60 will already have convinced us by then.

preview. 05



Der Supra

Toyota's Silk Road ends in Germany. by Daniel Pund You can see why Toyota and BMW would choose the code name "Silk Road" to describe their collaborative effort to build a new generation of sports cars. East meets West and all that. We will forgive the companies the minor historical inaccuracy—the Silk Road trade route never extended to Japan or Germany—because we greatly prefer sports cars to silk. And this alliance will result in the next BMW Z4 and the return of Toyota's long-lost Supra.

According to leaks out of Germany, the Supra coupe will appear in two years as a 2018 model. Why would the Germans be leaking Supra details? Because underneath the Toyota-specific body will be mounted a turbocharged inline-six BMW engine.

And, if that's not enough sacrilege, the coupe's rear-drive chassis will be developed largely by BMW, too.

So what will Toyota contribute to the party, other than the body? Well, money, for one. Toyota also will let BMW in on some of its expertise in inexpensive hybrid technology, although there's currently no indication that the Silk Road cars will offer hybrid options. BMW will certainly develop a four-cylinder variant for the Z4 while Toyota is unlikely to offer the smaller engine.

Toyota tipped its hand on the Supra's styling with the FT-1 concept car it unveiled at the Detroit auto show in 2014. With its Viper-like dimensions, the FT-1 concept is larger than the eventual production car will be. Scale the concept down about 10 percent or scale the current Z4 up a bit and you're in the realm.

There were early rumors that the Toyota-BMW cooperation also would result in a replacement for the slow-selling Scion FR-S, but it's hard to imagine Toyota seeing enough demand in the U.S. for two distinct rear-drive performance coupes. That noted, the platform should have enough powertrain and dimensional flexibility to be used for other BMW variations and possibly a Lexus model.

its rear axle and

Toyota Camry Sleeper Not just a

Not just a Funny Car. A hilarious

What we have here is a level of perversion we didn't think Toyota was capable of-or even aware of. We're referring to the Toyota Camry Sleeper concept the company unveiled at last fall's Specialty Equipment Market Association

(SEMA) show in Las Vegas. In a characteristically understated moment, Steve Appelbaum, Toyota's motorsports national manager, said, "This is the most extreme build we've ever unveiled at SEMA." Um, yeah.

The body of the silver Camry lifts as one rear-hinged unit, Funny Car-style, revealing not gray mouse-fur upholstery and cup holders but a purpose-built tube-frame chassis that's jammed with a 5.7-liter V-8 (taken from a

Tundra) to which is bolted a TRD supercharger generating 14 pounds of boost and-sure, why the hell not-a nitrous-oxide system. Toyota reckons the engine is good for 910 horsepower. The Tundra also donates

transmission. The Hoosier 335/30-18 rear DOT drag tires are not exactly what you'd call production fitments. Toyota's Motorsports Technical Center, which did the build in a scant 11 weeks, estimates that the Camry Sleeper will spank the quartermile in 9.5 seconds. That's 0.3 second quicker than the Porsche 918 Spyder, the auickest production car we've ever tested. The Camry Sleeper is, of course, a one-off. It doesn't signify anything about future Toyota products. It's simply the vehicular version of the vicious bunny in Monty Python and the Holy *Grail*, a juxtaposition of unlikely elements resulting in humor. We're proud of you, Toyota. -DP

Specifications

VEHICLE TYPE: front-engine, rearwheel-drive, 1-passenger, O-door flopper PRICE: \$Mega ENGINE TYPE: supercharged and intercooled DOHC 32-valve V-8

intercooled DOHC
32-valve V-8,
aluminum block and
heads, port fuel and
nitrous-oxide injection
DISPLACEMENT:
346 cu in, 5663 cc
POWER:
910 hp @ 5800 rpm
TORQUE:
950 lb-ft @ 3800 rpm

950 lb-ft @ 3800 rpm TRANSMISSION: 6-speed automatic with manual shifting mode DIMENSIONS

WHEELBASE: 109.3 in LENGTH: 190.9 in WIDTH: 71.7 in HEIGHT: 55.7 in CURB WEIGHT: 3400 lb 1/4-MILE: 9.5 sec @ 150 mph*

*Mfr's est.



Brute intelligence.

You don't have to look inside the new Audi A6 to know you're on the cusp of an exciting ride. But once you do, you'll realize you're in for so much more. With its unrivaled performance and advanced technologies, such as available mobile voice integration, driver technologies and ultrafast 4G LTE connection, the Audi A6 assistance features and ultrafast 4G LTE connection, the Audi A6 proves intelligence can be powerful. Introducing the new Audi A6.



[&]quot;Always pay careful attention to the road, and do not drive while distracted. The features and technologies discussed are optional, may require an additional subscription with separate terms and conditions, and should be used only when it is safe and appropriate. "Audi," "Truth in Engineering," all model names, and the four rings logo are registered trademarks of AUDI AG. ©2015 Audi of America, Inc.

lexus es

F is for Finesse

Lexus
takes an
elementary
approach
to the
go-fast
luxury-car
business.
by Eric
Tingwall

To ensure that nothing is lost in translation, Yukihiko Yaguchi pulls out his iPhone and scrolls through the photos. The chief engineer of the 2016 Lexus GS F stops on a pic of a mid-90s Toyota Chaser—a Japanese-market mid-size sedan—sporting a tiger decal on the hood and orange stripes across its roof and flanks. It's a Japanese Touring Car Championship racer in which Yaguchi scored seat time back in 2000, but the experience sticks with him today as one of several race cars that inspired each of the Lexus F cars he's developed.



A proper race car, Yaguchi says, is easy to drive fast. And that is exactly what he wants drivers to say about his new GS F.

Yaguchi doesn't obsess over top speeds and quarter-mile times. Like the engines in the original IS F, the stratospheric LFA, and the RC F coupe, this 5.0-liter V-8 makes power without assistance from blowers. That's a polite way of saying it's down on oomph—in a big way—relative to the competition. The engine, shared with the RC F, makes its power with revs, churning out 467 horsepower at an elevated 7100

rpm and 389 pound-feet of torque at 4800 rpm. The BMW M5 produces 560 horsepower; the 2016 Cadillac CTS-V, 640 horsepower.

The satisfaction Yaguchi aims for is of the back-road variety, the kind that lets you blitz a two-lane without fear of ending your ride in someone's living room. It's stability and predictability—the confidence to approach the car's limits. If the RC Fs we've driven are any indication, it also means a safe chassis setup that prefers to keep the tail behind the nose of the car.

Specifications VEHICLE TYPE: front-engine, rear-wheeldrive, 5-passenger,

4-door sedan
BASE PRICE:
\$75,000*
ENGINE TYPE: DOHC
32-valve Atkinsoncapable V-8, aluminum
block and heads, port
and direct fuel injection
DISPLACEMENT:
303 cu in, 4969 cc
POWER:
467 hp @ 7100 rpm
TORQUE:
389 lb-ft @ 4800 rpm
TRANSMISSION:

TRANSMISSION: 8-speed automatic with manual shifting mode DIMENSIONS WHEELBASE: 112.2 in

LENGTH: 193.5 in **WIDTH:** 72.6 in HEIGHT: 56.7 in **CURB WEIGHT:** 4100 lb PERFORMANCE ZERO TO 60 MPH: ZERO TO 100 MPH: 10.0 sec 1/4-MILE: 12.9 sec TOP SPEED: 171 mph *C/D estimated.





There are no adaptive dampers, and because the GS is a sedan, we're told the ride quality will be slightly more compliant than that of the RC F coupe. Power gets to the ground through an eight-speed automatic and a torque-vectoring differential. Grip comes by way of Michelin Pilot Super Sport tires, measuring 255/35 in front and 275/35 out back, wrapped around 19-inch forged aluminum wheels. Six-piston calipers-orange paint optional—pinch 15-inch rotors in front.

Lexus claims that the GS F is 76 pounds heavier than the RC F, which would put the Top right: It's a pretty remarkable world we live in when a 467-hp V-8 is considered underpowered for a high-performance sedan. Above: New seats, instrumentation. and trim highlight F-specific interior changes.



four-door at a touch over 4100 pounds. So the GSF is at the low end of its class, though not low enough to offset the hefty power disparity. Of course, even the back of the pack is fleet-footed these days. We predict a zero-to-60 sprint of 4.4 seconds on the way to a 12.9-second quarter-mile.

In keeping with current Lexus style, the GS F makes its presence known with a yawning hourglass grille stretching from hood to asphalt. Around back, there's a carbon-fiber lip spoiler, gloss-black diffuser, and stacked exhausts. The cabin is dressed with carbon-fiber accents; the parts-bin F steering wheel; and a huge, centrally mounted tachometer. The new seats are contoured, stitched, and perforated to look like skintight athletic apparel.

Whether or not the GS F cracks open a niche for luxury sports sedans that favor finesse over outright power, Yaguchi will soon have fresh photos on his iPhone for inspiration. At the Detroit auto show, the GSF shared the stage with his other project, the fat-fendered RC F GT3 race car that will likely compete in the TUDOR United SportsCar Championship and Europe's FIA GT3 series. At 2800 pounds and with its 5.0-liter V-8 cranking out 550 horsepower, it has the weight-to-power ratio of a hypercar. Progress is well and truly underway.

Q&A:

Mark Templin joined Toyota in 1990, one year after the LS400 launched the Lexus brand. Now a top executive at Lexus, Templin is there to bring to life CEO Akio Toyoda's vision: injecting passion and performance into a lineup best known for its suppleness and serenity.



C/D: What distinguishes F from established players like BMW M and

Mercedes-AMG? MT: For us, it's about making a car that makes everybody a better driver. It's not just about hard-core

performance. It's not just about getting on a racetrack and being the fastest.

C/D: What does the focus on performance mean for the customers who buy Lexus cars for comfort and luxury?

MT: We're trying to provide them the best of both worlds. We want a car that's 99.9 percent as good as any other car on the track, but is way better than everybody else on the street. Historically, we were about the best-quality product, bar none. Nobody could touch our quality, nobody could touch our quiet and our ride comfort, nobody could touch our customer experience or our craftsmanship. Those things we own, and we have to keep them. Now we want to add all of these emotional elements: styling, driving dynamics, and high performance, with F products. We're trying to add thosenot change the brand-but add those to the brand.

C/D Why don't you use turbochargers on the F cars?

MT: [F program chief engineer Yukihiko] Yaguchi is a big fan of naturally aspirated engines because of the visceral effect that you get, the sound of it, and the way that it feels. That being said, it doesn't mean we'll never have a turbocharged F product, but if we do, it will probably be a big engine that still gives you all of those áttribútes that he wants. He really feels that it's important to have the sound quality that you get out of those big engines.

C/D: What did Lexus learn from the \$375,875 LFA? MT: When we started. we wanted a good performance coupe at

an affordable price

that our customers could move up into. As development went through its cycles, everything got better and bigger and more expensive. Some of us started to wonder, 'Wow, is that the right thing to do?" After the fact, it was the best thing we ever did because it engaged our engineers, and what they learned is making every other car we build better.

C/D: You've announced your intention to launch a global racing effort with the RC F GT3 this year. Why is it important to go racing?

MT: Because it's fun.

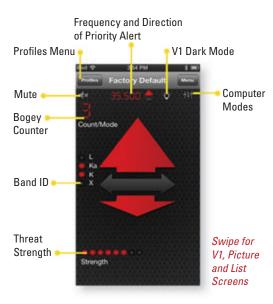
It's like the LFA. By building the GT3 car and going to race with that car, we're going to learn things that will make all of our products better. -ET

Long-range radar protection you can trust:

"Pure range is the Valentine's domain." __Autoweek

Now Valentine One comes to a touchscreen *near you*.

You can see the arrows at work on the screen of any compatible iPhone® or Android[™] device.

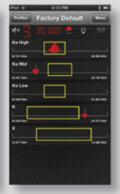


Beyond Situation Awareness

Think of **V1connection**™ as the Master Controller for your V1 system. You can adjust SAVVY® settings, change muting, activate dark mode, revise programming, save custom programming profiles for different trips, and more, all from vour handheld.

Three screens: analyze every threat three ways.







V1 Screen—shows all warnings including arrows, Bogey Counter, and signal strength. Touch icons for Mute, Modes and V1 Dark.

Picture Screen—the Threat Picture shows the full width of all activated bands and arrows mark all signal activity on them.

List Screen—the Threat List shows all signals in range by numerical frequency, each with an arrow showing Direction.

Check it out... The app is *free!*

You can download **V1connection**, the app for free. Go to the app store on your device.

When installed, the app automatically runs a Demo Mode. No need to link to V1. You can analyze preloaded threat situations on three different screens: the V1 Screen, Picture, and List. See how they work together to give a complete Threat Picture. Then when you're ready to put advanced Situation Awareness on duty in your car, order the Bluetooth® communication module, V1connection, directly from us.

- For compatible Android devices...choose V1connection.
- For iPhone/iPad®/iPod touch...choose V1connection™ LE.





Call toll-free 1-800-331-3030

- Valentine One Radar Locator with Laser Detection \$399
- SAVVY \$69 V1connection \$49 V1connection LE \$49

Plus Shipping / Ohio residents add sales tax

30-Day Money-Back Guarantee

Valentine One is a registered trademark of Valentine Research, Inc.

Bluetooth is a registered trademark of Bluetooth SIG, Inc. • iPhone, iPad and iPod touch are trademarks of Apple Inc. • Android is a trademark of Google Inc



The new Zo6 comes online to play with its friends.



////

PORSCHE 911 TURBO S

PRICE > \$195,175 POWER > 560 hp TOROUE > 516 lb-ft WEIGHT > 3590 lb C/D OBSERVED MPG > 14

CHEVROLET CORVETTE ZO

POWER > 650 hp TORQUE > 650 lb-ft WEIGHT > 3530 lb C/D OBSERVED MPG > 13 ////

NISSAN GT-R NISMO

PRICE > \$151,880 POWER > 600 hp TORQUE > 481 lb-ft WEIGHT > 3894 lb C/D OBSERVED MPG > 12



Now that the California Highway Patrol is switching to Ford Explorers, every Ford SUV in the mirrors looks like a threat. The stress level is especially high when you're traveling in a three-car, jelly bean-hued convoy propelled by 1810 horsepower. And this excuse probably won't fly: "But officer, it's hard to say how fast we were going because the numbers on the digital display were flickering by in clumps of threes and fives." That's not an excuse The Man wants to hear.

The cherry-red machine in our candycolored fleet is the most powerful Corvette ever assembled by the fine folks of Bowling Green, Kentucky. A 650-hp 6.2liter supercharged V-8 dubbed LT4 makes 195 more horsepower than the standard Stingray. Historical note: Most 1979 Corvettes made 195 horsepower, total. The Zo6 engine's extra stonk comes from direct fuel injection, variable valve timing with titanium intake valves, forged pistons with a 10.0:1 compression ratio, and a supercharger blowing 9.4 psi of boost. A hard push of the throttle is all it takes to erase memories of the 638-hp ZR1 we were so lately mourning.

Our Zo6 arrived with the reworked Zo7 chassis. Notching up to Zo7 spec costs an extra \$10,990, or \$7995 plus \$2995 for the mandatory carbon-fiber ground-effects

package. Expensive, sure, but it adds some serious hardware, including huge carbonceramic brakes and Michelin Pilot Sport Cup 2 tires developed specifically for the Zo7. With that gear in place, this Corvette generates some of the best numbers in the history of this magazine, and it is the Zo7 option that gives the Corvette the performance to compete with cars costing twice as much.

Dipped in Racing Yellow, our Porsche 911 Turbo S looks like the world's largest Lemonhead. At \$195,175, it is nearly double the cost of the Corvette. A 560-hp treat from the continent that brought us marzipan, it comes with a twin-turbocharged 3.8-liter flat-six, four-wheel drive, four-wheel steering, and a dual-clutch seven-



speed automatic, all of which makes it one of the quickest cars we've ever tested.

Where's the 911 GT3? In the interest of saving you from writing in, we'll tell you that a last-minute accident (by someone other than us) kept the GT3 out of our clammy hands. At the eleventh hour, we swapped in a Turbo S, hoping that its ceramic brakes, sophisticated four-wheeldrive system, four-wheel steering, and boosted engine might prove an even bigger threat to the Zo6, despite losing points in our price category.

The vanilla-white car in our confectionery is the Nissan GT-R NISMO. Nissan's GT-R GT3 racer. A revised chassis, complete with NISMO-spec Dunlop SP Sport Maxx GT run-flats and half-inch-wider front wheels, improves the grip. A unibody laced with structural adhesives improves the rigidity. This GT-R has an aero package, including a large carbon-fiber wing that creates downforce without—according to Nissan-affecting the drag coefficient. If this small-batch GT-R sounds appealing, then the \$151,880 price, a 50-percent hike over a regular GT-R, might not have you doing a spit-take.





Everything gets old, even Godzilla. Next to the Corvette and the 911, the mighty GT-R is beginning to show some gray, and its lack of refinement is becoming obvious. NISMO's engineering know-how helps the test numbers, but the end result is a more specialized GT-R that has more trouble adapting to life on the road than the newer Corvette and 911.

The ride borders on the violent, a harshness not present in the other cars. Switching the electronically adjustable shocks to their softest setting doesn't alleviate the discomfort of becoming human Jell-O. For 2015, Nissan softened the base GT-R's ride,

which apparently opened the door for NISMO to get a bit sadistic. The upsides are no detectable body roll, immediate steering responses, and a skidpad figure of 1.02 g's. But the chassis is now so stiff that small mid-corner bumps throw the GT-R around enough to trigger the stability control. We might be willing to forgive the NISMO's punishment if the other two cars didn't combine more grip with better ride quality.

The Corvette and the 911 sound better, too. The GT-R's 3.8-liter twin-turbo V-6 pulses out a grin-inducing snarl above 5000 rpm, but the rest of the time it whines, whirs, clicks, clunks, and hums as if powered by so many milkshake blenders. Turbo lag is minimal, and thrust is available from any rpm. But the dual-clutch transmission is slow to react and downshift into the lowest gear, which lengthened the car's passing



NISSAN GT-R NISMO

- + A hard charger under acceleration, usable grip, a Newtonian anomaly.
- Painful ride, unresponsive transmission in automatic mode, nearly 50-percent upcharge over regular GT-R.
- E It sounds as if it's powered by blenders and, not surprisingly, it will shake your innards.

times. In manual mode, the transmission responds with quick and crisp shifts, but left to its own devices, it acts a bit confused.

The NISMO's 55 extra horsepower over the base GT-R results in marginally better acceleration. The run to 60 takes 2.9 seconds, a tenth quicker than the regular GT-R, while the quarter arrives in 11 flat at 128 mph, an improvement of 0.2 second and 3 mph. These are not gains that justify a \$50,000 price hike, unless the car will live at the track.

What hasn't changed is the GT-R's mass and footprint. It's the big-and-tall shopper of the group at 3894 pounds. From behind the wheel, the GT-R feels sedanlike, at least when it's not moving. Its high cowl

NISSAN CHEVROLET PORSCHE GT-R NISMO 911 TURBO S CORVETTE Zo6 VEHICLE BASE PRICE \$78,995 \$102,120 \$151,585 \$183,695 AS TESTED DIMENSIONS 177.9 inches LENGTH 184.3 inches 177.4 inches 74.0 inches 51.0 inches WIDTH 77.4 inches 74.6 inches 54.2 inches **HFIGHT** 48.6 inches WHEELBASE 106.7 inches 109.4 inches 96.5 inches FRONT TRACK REAR TRACK 63.5 inches 62.5 inches 63.0 inches 60.6 inches 63.0 inches 62.6 inches INTERIOR VOLUME F: 52 cubic feet F: 50 cubic feet F: 53 cubic feet R: 26 cubic feet R: 17 cubic feet CARGO 15 cubic feet 13 cubic feet 9 cubic feet POWERTRAIN twin-turbocharged DOHC 24-valve V-6 twin-turbocharged DOHC 24-valve flat-6 ENGINE supercharged pushrod 16-valve V-8 376 cu in (6162 cc) 232 cu in (3799 cc) 232 cu in (3800 cc) POWER HP @ RPM TORQUE LB-FT @ RPM 650 @ 650 @ REDLINE/FUEL CUTOFF LB PER HP 6500/6700 rpm 7000/7000 rpm 7000/7200 rpm DRIVELINE TRANSMISSION 7-speed manual 6-speed dual-clutch 7-speed dual-clutch automatic auťomatic auli 3.91/5.9/42 2.2.9/10.0/72 3.158/14.6/105 4.118/19.4/140 5.0.94/24.4/176 6.0.79/29.2/198 7.0.62/36.9/180 1 4.06/5.3/37 2 2.30/9.4/66 3 1.60/13.6/95 4 1.25/17.3/121 5 1.00/21.6/151 DRIVEN WHEELS 1 2.29/9.8/66 2 1.61/13.9/93 3 1.21/18.5/124 4 1.00/22.4/15 GEAR RATIO:1/ MPH PER 1000 RPM/ MAX MPH 1.21/18.5/124 4 1.00/22.4/150 5 0.82/27.3/183 6 0.68/32.9/185 7 0.45/49 8/475 6 0.80/27.2/191 0.45/49.8/175 **AXLE RATIO:1** 3.70 3.42 CHASSIS SUSPENSION F: control arms, leaf **F:** control arms, coil springs, anti-roll bar **F:** struts, coil springs, anti-roll bar spring, anti-roll bar R: multilink, coil springs, anti-roll bar F: 15.4-inch vented, R: control arms, leaf R: multilink, coil spring, anti-roll bar **F:** 15.5-inch vented, springs, anti-roll bar **F:** 16.1-inch vented, BRAKES cross-drilled, cross-drilled disc cross-drilled, ceramic disc R: 15.3-inch vented, R: 15.0-inch vented. ceramic disc R: 15.4-inch vented, cross-drilled disc cross-drilled, cross-drilled, ceramic disc fully defeatable, ceramic disc fully defeatable, STABILITY CONTROL fully defeatable, traction off, competition mode, launch control competition mode, launch control launch control Pirelli P Zero **F:** 245/35ZR-20 (91Y) **R:** 305/30ZR-20 Michelin Dunlop Pilot Sport Cup 2 ZP F: P285/30ZR-19 (94Y) SP Sport Maxx GT 600 DSST CTT **F:** 255/40ZRF-20 (97Y) **R:** 285/35ZRF-20 **R:** P335/25ZR-20 (99Y) (103Y)(100Y)

C/D TEST RESULTS			
ACCELERATION			
0-30 MPH		1.2 sec	1.0 sec
0-60 MPH		2.9 sec	2.5 sec
0-100 MPH		6.6 sec	6.2 sec
0-150 MPH		15.8 sec	14.9 sec
1/4-MILE @ MPH	11.5 sec @ 125	11.0 sec @ 128	10.6 sec @ 130
ROLLING START,			
5-60 MPH		3.8 sec	3.4 sec
TOP GEAR, 30-50 MPH	13.9 sec	3.8 sec	2.1 sec
TOP GEAR, 50-70 MPH	10.8 sec	3.0 sec	2.3 sec
TOP SPEED	185 mph	191 mph	198 mph (drag ltd,
3	(drag ltd)*	(redline ltd)	mfr's claim)
CHASSIS	•		
BRAKING, 70-0 MPH	135 feet	152 feet	145 feet
BRAKING, 100-0 MPH	261 feet	275 feet	291 feet
ROADHOLDING,			
300-FT-DIA SKIDPAD	1.15 g	1.02 g	1.07 g
610-FT SLALOM	50.1 mph	48.2 mph	48.1 mph
WEIGHT			
CURB	3530 pounds	3894 pounds	3590 pounds
%FRONT/%REAR	50.3/49.7	54.3/45.7	38.8/61.2
FUEL			
TANK	18.5 gallons	19.5 gallons	18.0 gallons
RATING	91 octane	93 octane	93 octane
EPA CITY/HWY	15/22 mpg	16/23 mpg	17/24 mpg
C/D 450-MILE TRIP	13 mpg	12 mpg	14 mpg
SOUND LEVEL		, ,	
IDLE	60 dBA	54 dBA	55 dBA
FULL THROTTLE	93 dBA	90 dBA	83 dBA
70-MPH CRUISE	77 dBA	75 dBA	73 dBA



2. Porsche 911 Turbo S

An 18-point price deficit on our score sheet is a nearly impossible hurdle to overcome with subjective ratings, but the Porsche almost pulls it off. Porsche asks \$195,175 for a Turbo S like this one (base: \$183,695). We'd say it's worth it—if you can afford it.

Like most 911s, the Turbo S is safe for daily use. Early on, technical editor K.C. Colwell declared it to be the luxury car of the group, and in their softest setting, the

PORSCHE 911 TURBO S

- + A perfectly usable car that will hit 150 mph in less than 15 seconds.
- Hi, can I get a 30-year mortgage on a car?
- Part 911, part Bugatti Veyron.



The Turbo S is as effective a speed sled as exists, but a 911 GT3 is more fun and less expensive. But, my goodness, this thing is quick.

electronically adjustable shocks provide a supple ride despite the 20-inch wheels. A perfect seating position is easily attainable thanks to the heated-and-cooled 18-way adjustable seats. Visibility in all directions is excellent. Both at full throttle and while cruising at 70 mph, the 911 is the quietest in the group. Aside from its price and performance, there's nothing hugely exotic about the 911. It is that everyday normality that makes the Porsche so agreeable.

That said, there's nothing normal about launch control in a Turbo S. It's a strange and brutal sensation, this going from motionless to 30 mph in one second, 60 mph in 2.5 seconds, and 100 in 6.2 seconds. The quarter blurs past in 10.6 seconds at 130 mph, and 150 is yours in less than 15. It's a full-body assault, a four-wheel bull ride, and as nauseatingly disorienting as an Everclear-fueled night. This 8000-mile Turbo S proved to be quicker than a similar car we tested a year ago, and it's the only car we've recently examined to hit 180 mph on our test straightaway. In our passing evalu-





The ZO6 posts utterly shocking braking and roadholding figures. But without fourwheel drive, its acceleration is merely stunning.

so drink your Red Bull and splash some water on your face, because unless your last name is Vettel or Gordon, the Zo6 is more than you can handle, even on your best day.

Compared with the other two cars here, the Vette is a live wire, reacting as if it's missing an electron in its outer shell. The handling is next-level stuff. Most of the violence comes courtesy of the supercharged 6.2-liter V-8. Ads for this car should include the following disclaimers: "Short-term effects are joy, terror, and soreness. Longterm effects include loss of license, skyrocketing insurance bills, and possibly a stenosis of the cervical spine."

Speeds that are thrilling in the cars of mortals are nothing to the Zo6. From the logbook: "You could set the cruise control at 65 mph on highway 33 and tackle every switchback that canyon road has to offer without ever touching the brakes."

And somehow, the same suspension that makes 1.15 g's possible doesn't pound you senseless. We expected the compliance of a go-kart but were proven wrong. While definitely firm, the Corvette, when set on tour-the magnetorheological shocks' softest setting—is only slightly harsher and stiffer than the standard Stingray and not nearly as unyielding as the GT-R. The steamroller Michelins sop up most bumps and barely sing louder than Z51 rubber.

Dial up the track setting and the steering effort rises, the shocks tighten, and the exhaust flaps open to release the sounds

CHEVROLET CORVETTE Z06

- + Once you master this car, you can drive anything.
- So much power but only two drive wheels.
- It has to go mid-engine to get better.

of Sebring. We prefer the lighter steering of the other modes, but the extra effort isn't on your mind when the Corvette approaches 1.0 g. Go ahead, splurge on the \$1995 Competition Sport seats; you'll need them to keep you where you belong.

The Zo6 has the best power-to-weight ratio here but not the superior traction with which to apply it. In an all-two-wheeldrive world, this would be the quickest car,



but as it is, the Zo6's acceleration times were the slowest. Still, a zero-to-60 of 3.3 seconds and a quarter-mile time of 11.5 seconds at 125 mph is hardly embarrassing. The Chevy does come with launch control, but it's not as effective as the Porsche's. Our best times were achieved by slowly rolling into the throttle, thereby avoiding timerobbing wheelspin.

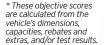
There's so much power here that the gearing feels short. It's not—first gear is good for 66 mph, tall enough to merge onto a freeway without upshifting. Once your palm moves to the stick, you find surprisingly light effort considering the transmission's torque capacity. A seven-speed maze means that we found fifth gear sometimes when we were seeking third. Above 150 mph, acceleration tapers off faster here than in the other cars, as the added drag of the Zo7's thorny aerodynamic gear begins to throw out the anchor.

Should a faster-acting anchor be needed, the Corvette can stop from 70 mph in 135 feet and from 100 mph in 261 feet all day long. The stops are so quick that we expected OnStar to call us to see if we had just crashed. The brake pedal feels excellent, with just the right amount of initial bite. Porsche's brake feel was a close second. The Nissan's cast-iron rotors provided short stops, but the pedal has enough sponginess to foster doubt.

For all the race car-like performance the Zo6 adds to the Stingray, the refinement, civility, and ride are hardly degraded. Regular commuter or force-five hurricane, the Zo6 plays both roles with equal aplomb. If this is indeed the last front-engine Corvette, it's fitting that it's the best.

TS			U65
	Niggar OS	GT. AND	Mo
		40	_
10			7
			1
			2
_	9		2
	Ŕ	10	8
10	8		8
10	9	9	8
5			0
20	20		8
95	76	64	56
20	16	20	18
5		3	3
10			8
40	8		
10		10	
10	9	10	7
10	9 45	10 53	7 43
10	9 45 20	10 53	7 43 15
10 55 20 10	9 45 20 10	10 53 17 9	7 43 15
10 55 20 10 10	9 45 20 10 10	10 53 17 9	7 43 15
10 55 20 10 10	9 45 20 10 10 10	10 53 17 9 9	7 43 15 9 8
10 55 20 10 10 10	9 45 20 10 10 10 8	10 53 17 9 9 10	7 43 15 9 8 6
10 55 20 10 10	9 45 20 10 10 10	10 53 17 9 9	7 43 15 9 8
10 55 20 10 10 10	9 45 20 10 10 10 8	10 53 17 9 9 10	7 43 15 9 8 6
	10 10 5 5 10 10 10 10 5 20 95	10 8 10 9 10 8 10 8 10 8 10 8 10 9 5 76	10 8 10 10 9 9 5 0 1 5 5 4 10 9 10 10 8 10 10 8 9 10 9 9 5 0 20 2 95 76 64

045









Accessories Available for

Acura · Audi · BMW · Buick · Cadillac · Chevrolet · Chrysler · Daihatsu · Dodge · Ferrari · Ford · GMC · Honda · Hummer · Hyundai · Infiniti · Isuzu · Jeep · Kia · Land Rover · Lexus · Lincoln · Maserati · Mazda · Mercedes-Benz · Mercury · Mini · Mitsubishi · Nissan · Oldsmobile · Plymouth · Pontiac · Porsche · Saab · Saturn · Scion · Smart · Subaru · Suzuki · Toyota · Volkswagen · Volvo · and more!

Order Now: **800-441-6287**













All-Weather Floor Mats Deeply Sculpted Channels Designed to Trap Water, Road Salt, Mud and Sand Will Not Curl, Crack or Harden **Regardless of Temperature** Available in Black, Tan and **Grey for Virtually Any Vehicle**

Accessories Available for

Acura · Audi · BMW · Buick · Cadillac · Chevrolet · Chrysler · Daihatsu · Dodge · Ferrari · Ford · GMC · Honda · Hummer · Hyundai · Infiniti · Isuzu · Jeep · Kia · Land Rover · Lexus · Lincoln · Maserati · Mazda · Mercedes-Benz · Mercury · Mini · Mitsubishi · Nissan · Oldsmobile · Plymouth · Pontiac · Porsche · Saab · Saturn · Scion · Smart · Subaru · Suzuki · Toyota · Volkswagen · Volvo · and more!

Order Now: 800-441-6287







European Customers WeatherTechEurope.com









Accessories Available for

Acura · Audi · BMW · Buick · Cadillac · Chevrolet · Chrysler · Daihatsu · Dodge · Ferrari · Ford · GMC · Honda · Hummer · Hyundai · Infiniti · Isuzu · Jeep · Kia · Land Rover · Lexus · Lincoln · Maserati · Mazda · Mercedes-Benz · Mercury · Mini · Mitsubishi · Nissan · Oldsmobile · Plymouth · Pontiac · Porsche · Saab · Saturn · Scion · Smart · Subaru · Suzuki · Toyota · Volkswagen · Volvo · and more!

Order Now: 800-441-6287







European Customers WeatherTechEurope.com







In-Channel Side Window Deflectors No Exterior Tape Needed THE SECRET **Reduces Wind Noise and Allows** 08-11--**Interior Heat to Escape** PRECISION-MACHINED MICRO-THIN MOUNTING FLANGE INSTALLS INSIDE WINDOW CHANNEL (ABSOLUTELY NO EXTERIOR TAPE) 65.0 KADIUS MATERIAL SPECIFICATION LIGHTLY TINTED DEM APPROVED HAND POLISHED CAST ACKYLIC (OUSTOM FORMED FOR EACH VEHICLE) (FOR EXTRA STIFFNESS) 37 mm. RADIUS (EDGE IS ROUNDED FOR ENTRE LENGTH) Precision-**Light and Dark** Sleek, Low **Machined Flange** Tint **Profile Design**

Accessories Available for

Acura · Audi · BMW · Buick · Cadillac · Chevrolet · Chrysler · Daihatsu · Dodge · Ferrari · Ford · GMC · Honda · Hummer · Hyundai · Infiniti · Isuzu · Jeep · Kia · Land Rover · Lexus · Lincoln · Maserati · Mazda · Mercedes-Benz · Mercury · Mini · Mitsubishi · Nissan · Oldsmobile · Plymouth · Pontiac · Porsche · Saab · Saturn · Scion · Smart · Subaru · Suzuki · Toyota · Volkswagen · Volvo · and more!

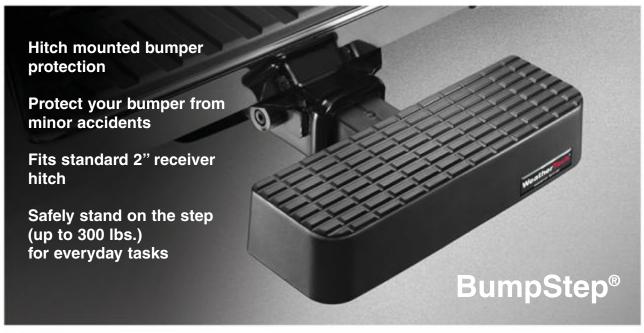
Order Now: 800-441-6287















074 . *feature*

ALL THE SENSE IN THE WORLD

EXAMINING MAYBACH'S NEW LAND YACHT USING ALL OUR FACULTIES.



BY JOHN PEARLEY HUFFMAN
PHOTOGRAPHY BY PAUL BARSHON





OVERWHELM THE SENSES or starve them. Connect the driver so completely with the car that he has to duck to avoid the crankshaft throws, or isolate the cabin so absolutely that its occupants feel cleansed by its serenity. Constant stimulation or sensory deprivation? When engineering an expensive car, a path must be chosen.

But the 2016 Mercedes-Maybach S600 charts a difficult middle course. It's not a frantic supercar, nor is it a numb isolation chamber on four wheels. Instead, it indulges each of the five senses in considered doses.

Of course, the new Maybach isn't a car for people who merely have their names on parking spaces. It's a \$190,275, 523-hp, twin-turbo V-12-powered leviathan for the titans who have their names on buildings, especially in China.

After all, even billionaires in America like to consider themselves "middle-class." Many drive Ford F-150s and drink an occasional Coors. The Maybach is embarrassingly opulent, even by the standards of most American one-percenters, and that's why only about 10 percent of the freshly reimagined Maybach subbrand's S-class production will make it over here.

Chinese culture, on the other hand, has a lingering caste system, and the nouveau gentry expect to be driven in regal comfort while they drink chilled Cristal from the optional sterling-silver champagne flutes. Mercedes expects that 50 percent of new Maybachs will head there.

Let's check out the Maybach S600, one sense at a time.

SIGHT

LOOK CLOSELY AT THE DETAILS AS YOU TAKE IN ALL EIGHTEEN FEET.



MOST OF THE NEW MAYBACH'S mechanical substance is identical to the standard S600's. During assembly, an additional steel panel gets welded to the floorpan, and new extended aluminum rear quarters and a longer roof are bonded to the structure. With an 8.1-inch wheelbase stretch, and the addition of chrome B-pillars and small windows behind the doors, the result is massive-looking, but with a lavish, provocative profile.

However, on the standard S600's multispoke wheels, the Maybach also looks anonymous. It's the dazzling, optional Maybach-exclusive 20-inchers that bring the necessary eyeball wallop. Like silver Tiffany serving bowls embedded into a polished set of E-T slot mags, the Maybach wheels visually lower the car's center of gravity and give it a *frisson* of futurism. They're encased in 245/40 front and 275/35 rear Goodyear Eagle F1 Asymmetric 2 run-flat tires with square shoulders and steamroller tread patterns. It's all very master of the universe–type stuff.

So forget the individual media screens in the rear lounge, don't bother with the seven possible colors of ambient interior lighting you can choose from, and don't look up through the standard panoramic sunroof; the visual feast lies under each fender.



TAKE OFF YOUR SHOES. NOW TAKE OFF YOUR SOCKS. THAT'S REAL SHEEP.

ALL THE MAYBACH'S stretch translates into additional legroom for the two occupants in back, who are seated in thrones that look as if they were pulled from an executive jet. With separate power controls, pillow-style headrests, extendable legrests, and a perfectly coddling shape, they're as good for napping as any bed in your house. Six-footers won't be able to tap the front seatbacks with their feet.

Add the rear-seat comfort package—it really should be called the insanely comfortable rear-seat package—and a hot-stonemassage system is included. It's the best thing you can touch in automobiledom, though it doesn't offer a happy ending.

Save for a few controls, there isn't a surface that the rear-seat passengers can caress, pet, or stroke that didn't once moo. Unless they go barefoot. Then, their toes sink into plush, sheepskin floor mats. Those used to go baa.

LISTEN CAREFULLY AND YOU'LL HEAR NOTHING.

MERCEDES CLAIMS that the Maybach S600's rear passengers sit in the quietest space in any car. Even the seatbelts' inertial reels are sealed to reduce the offensive noise of their operation.

Silence isn't always a virtue, though, so every Maybach carries either a Burmester surround-sound system or the even higher-end 3-D surround-sound system that faithfully replicates orchestral music and has tweeters that pop out and rotate when in use. But the Maybach's most engaging sound is heard mostly by the driver. Pressing the start button initiates an ignition sequence that whirs the big 6.0-liter twin-turbo V-12 to life as if the ground plugs had been pulled and fuel pumps started on a moon-bound Saturn V rocket.

Unfortunately, as with other S600s, the Maybach also uses the eco stop-start system that shuts off the engine at every stop. And it gets annoying hearing the engine rumble back to life every few minutes in traffic. The system can be turned off but defaults back to on every time you restart. An eco mode in such a staggeringly large and thirsty land yacht is a feint galling enough to insult the intelligence of its buyers.







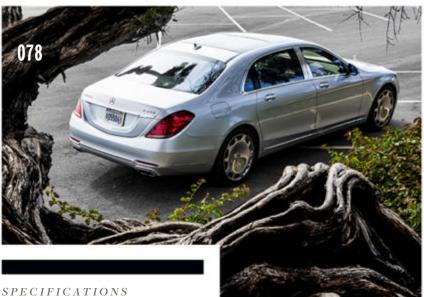
SMELL

THE ODOR OF MONEY, MASQUERADING AS AGAR.

MODERN PROCESSED LEATHER just doesn't deliver much olfactory satisfaction. So, as with the other S-class machines, the Maybach uses Mercedes' Air Balance system of air ionization and filtration, with the addition of a fragrance. In the Maybach's

case, the fragrance is a special concoction of precious and expensive Agarwood essence.

The Agar tree is native to Southeast Asia, and its heartwood resin has been used for centuries in perfume and incense. It makes the cabin smell like the nicest candle shop in Guangzhou. Maybach buyers in China will love it.



TASTE

EATING INSIDE IS ENCOURAGED. OTHER MATTERS OF TASTE ARE LESS CLEAR.

DON'T LICK THE MAYBACH, but in-car dining is encouraged. Airplane-style aluminum fold-out tables are optional, as is a refrigerated compartment big enough to hold three bottles of champagne—or a twoliter bottle of Dr. Pepper and two roast-beefand-provolone subs from Jersey Mike's.

The problem with that \$1100 refrigerator isn't that it doesn't keep things cold (it does), but that it extends deep into the trunk, sucking up about 20 percent of the usable storage space. Imagine unloading your Gulfstream and finding that there's not enough room in the Maybach's trunk for that cord of Agarwood you picked up during an Indonesian stopover.



VEHICLE TYPE: front-engine, rear-wheel-drive, 4-passenger, 4-door sedan
PRICE AS TESTED* BASE PRICE
ENGINE TYPE: twin-turbocharged and \$190,275 intercooled SOHC 36-valve V-12, aluminum block and heads, port fuel injection

 DISPLACEMENT
 365 cu in, 5980 cc

 POWER
 523 hp @ 5300 rpm

 TORQUE
 612 lb-ft @ 1900 rpm

 TRANSMISSION: 7-speed automatic with manual shifting mode DIMENSIONS WHEELBASE 132.5 in LENGTH 214.7 in **WIDTH** 74.8 in CARGO VOLUME 16 cu ft **CURB WEIGHT** 5304 lb

C/D TEST RESULTS

ZERO TO 60 MPH 4.7 sec ZERO TO 100 MPH 10.6 sec ZERO TO 130 MPH 17.9 sec ROLLING START, 5-60 MPH 5.1 sec 1/4-MILE 13.1 sec @ 112 mph TOP SPEED (governor limited) 130 mph BRAKING, 70-0 MPH 167 ft ROADHOLDING. 167 ft	
300-FT-DIA SKIDPAD	
### 12/20 mpg C/D OBSERVED	

TEST NOTES: Zero drama. Get in and go. Hits the governor like a wall at 130 mph. Great brakes with no fade.

THE SIXTH SENSE

REMOTE BUT NOT INTANGIBLE SOUL.

MERCEDES' S-CLASS is already one of the best cars in the world. and moving up to the Maybach amplifies most of its virtues. In



particular, the V-12 that can seem like coldblooded overkill in the S-class feels easygoing in the 523-hp Maybach, and shifts of the seven-speed automatic transmission are somehow both firm and virtually unnoticeable.

Meanwhile the coordinated operation of the Magic Body Control suspension and Road Surface Scan forward-looking-camera system gives the Maybach the most even-tempered ride of any sedan. The distant steering feel present in other S-class sedans somehow feels appropriate in the stretched Maybach.

Mercedes plans to apply the Maybach treatment to other products, including (it's rumored) the large GL SUV. A super-deluxe SUV such as that one could find more takers in the United States than this monstrous sedan. And there should be a stretched E-class Maybach for the junior executives in China and here as well.

Now, please excuse us as we crawl in back, enjoy our massages and exquisitely chilled subs, and take the mother of all naps.

CHEVROLET CRUZE CLEAN TURBO DIESEL IT'S A LEAN, CLEAN DIESEL MACHINE.



2.0L Engine

DIESEL'S CLEAN SLATE

The Cruze Clean Turbo Diesel uses a Selective Catalytic Reduction (SCR) system to convert oxides of nitrogen into harmless nitrogen and water. The SCR system uses a Diesel Exhaust Fluid (DEF or AdBlue) in addition to the standard Diesel Oxidation Catalyst (DOC), which converts hydrocarbons and carbon monoxide into harmless gases. It generates at least 90% less NOx emissions than previous generation diesels. Its emissions are below strict U.S. environmental standards.



EPA-estimated 46 MPG Hwy

EMPHATIC ABOUT EFFICIENCY

If it's not a hybrid or an electric car, it's not getting better highway fuel economy than the Cruze Clean Turbo Diesel. Its highway fuel economy is unsurpassed among gasoline and diesel vehicles available in the U.S. The ECOTEC® 2.0L turbocharged diesel engine can go up to 717 miles on a single tank! So you won't be shortchanged at the pump or in the passing lane.



Built-in 4G LTE Wi-Fi

ADVANCEMENTS AND ENHANCEMENTS

2015 Cruze is the first compact car with available built-in 4G LTE Wi-Fi? It's also the first with 10 standard air bags? You'll also notice a sleek new front fascia and LED daytime running lights. And its standard features range from remote start to leather-trimmed upholstery to 17° alloy wheels.



Cruze Diesel packs more of everything into a stylish, compact frame. With SAE-certified 151 horsepower and 264 lb.-ft. of low-end torque, you get the performance of a V6 with the efficiency of a 4-cylinder.



FIND NEW ROADS

FOR MORE INFORMATION ON THE 2015 CRUZE CLEAN TURBO DIESEL GO TO CHEVROLET.COM/CRUZE







Revolutionizing tire buying since 1979









FIND

DELIVER







- Get shipping quotes online or by phone
- Benefit from seven strategically located national distribution centers

Great service with speedy delivery.
Thank you!

I was so amazed that my tires showed up the next day!



TIRE RAC



BRIDGESTONE

























TOYO TIRES





USE OUR EST RESUL TO FIND THE RIGHT



Tire Rack's team of over 100 test drivers evaluates tires from every major manufacturer. This behind-the-wheel experience along with extensive classroom training allows our sales team to provide expert product recommendations based on how, where and what you drive.

www.tirerack.com/tires/test



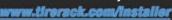
OVER & OOD Independent Recommended Installers NATIONWIDE!

Ship your order to their location if you prefer then call to make your installation appointment.



Scan this code

and enter your ZIP Code to find an installer near you!











TIRE RACK



















SPARCO ASSETTO GARA STARTING AT \$105ea.

SPARCO ASSETTO GARA STARTING AT \$105ea

SPARCO ASSETTO GARA 14 15 16 17 18 STARTING AT \$105ea

SPARCO PRO CORSA STARTING AT \$148ea.

SPARCO PRO CORSA STARTING AT \$148ea.









SPARCO TERRA STARTING AT \$125ea

ADVANTI RACING B2 DENARO ADVANTI RACING FS FASTOSO

STARTING AT \$179ea

ADVANTI RACING HY HYBRIS STARTING AT \$149ea

ADVANTI RACING S1 STORM STARTING AT \$129 au



ENKEI PERF. J10 15 16 17 18 STARTING AT \$111ea.

ENKEL PERF. M52 15 16 17 18 STARTING AT \$113ea.

ENKEI PERF. PSR5 15 16 17 18 STARTING AT \$120ea.

ENKEI PERF. RSF5 15 16 17 18 STARTING AT \$120ea

ENKEI PERF. SVX 18 20 STARTING AT \$180ea.

ENKEI PERF. VR5 15 16 17 18 STARTING AT \$120ea

MODA MD20 NG AT \$102ex



See Them on Your Vehicle!

Enter your vehicle at www.tirerack.com to experience one-click access to everything that fits it, and create a list of saved products.

What is Included in a Wheel & Tire Package?

Scratchless Mounting and GSP9700 RoadForce Variation Balancing, All Necessary Hardware (lugs, centering rings, center caps, valve stems, etc.) ALL INCLUDED AT NO ADDITIONAL COST!

What About TPMS?

If your vehicle came equipped with a direct tire pressure monitoring system, we can assist you in selecting wheels that are compatible with its sensors. We also offer an extra set of

sensors for all TPMS systems, so your tire and wheel package can arrive with sensors already installed.

Want More Info?

Call and talk to our highly trained experts.



ANDROS NI 16 17 18 STARTING AT \$79ex



ANDROS R9 STANDING AT \$139ea.

AVARUS AV11 20 21 STARTING AT \$232ea

AVARUS AVI2 17 18 19 20 STARTING AT \$169ea



KOSEI KSR STARTING AT \$129ea.



MONTE TI. MT1 PIANA STARTING AT \$113ea

MONTE TI. MT4 CESTA

SPORT EDITION A9 STARTING AT \$95ea



RIAL LUGANO STARTING AT \$199ea.



RIAL W10X STARTING AT \$189ea



STARKE DESIGN MC 20 22 for Porsche STARTING AT \$289ea.



STARKE DESIGN FC 19 for Porsche STARTING AT \$239ea



15 16 17 STARTING AT \$85ea.

BRAKES















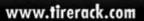




















A HUGE SELECTION OF OVER 1,100 DIFFERENT WHEELS



ASA AR1 16 17 18 STARTING AT \$120ea.

ASA GT11 17 18 STARTING AT \$165ea.

ASA GT12 17 18 STARTING AT \$161ea.

HURST DAZZLER 20x8.5 STARTING AT \$164ea.

HURST STUNNER STARTING AT \$307ea.



O.Z. ALLEGGERITA HLT 16 17 18 STARTING AT \$259ea.

O.Z. CHALLENGE STARTING AT \$349ea.

O.Z. FORMULA HLT 17 18 19 STARTING AT \$279 ea.

O.Z. FORMULA4 HLT 17 STARTING AT \$279ea.

O.Z. LEGGERA HLT 17 18 19 20 STARTING AT \$299ea.

O.Z. MONTE CARLO HLT STARTING AT \$439ea.

O.Z. OMNIA STARTING AT \$210 ea.



STARTING AT \$1,541es.



O.Z. SUPERFORGIATA O.Z. SUPERTURISMO LM O.Z. ULTRALEGGERA HLT



15 16 17 18 STARTING AT \$399 au



MSW CROSSOVER 16 17 18 STARTING AT \$149ea



MSW TYPE 85 14 15 16 17 STARTING AT \$69ea.



VERDE PARALLAX STARTING AT \$169ea.

VERDE SAGA STARTING AT \$122es.

TRUCK & SUV WHEELS SEE OVER 225 AT TIRERACK.COM!



GRANITE ALLOY GA640 16 17 18 20 STARTING AT \$109ea

KMC XD811 ROCKSTAR II 17 18 20 22 24 STARTING AT \$252ea

MAMBA M15 STARTING AT \$157ea

METHOD STANDARD 15 16 17 18 20 STARTING AT \$139ea.

MOTO METAL MO971 STARTING AT \$143ea.

W.E.R. 501 LEGEND STARTING AT \$136ea.

W.E.R. 504 LEGACY STARTING AT \$145ea.























Meniskey Rebelion

084

. feature

Drinking in the roots of stock-car racing, with a blown Chevy and a trunk full of hooch.

by Ezra Dyer

|||| photography by Clint Davis





086 04.2015 = caranddriver.com

tax evasion. That's why Rosco was always chasing them Duke boys, in case you haven't put that together.

So I begin my voyage outside Fayetteville, North Carolina, talking moonshine with a man named Rooster. I'd met Robert "Rooster" Kitchen at a party where, as happens in North Carolina, there was some moonshine about. It turned out he knew a lot about the stuff. As in, he agreed to show me where one might make moonshine if one were to engage in such an activity. And he'd bring an old family bootlegging car, a 1941 Plymouth Special Deluxe sedan.

I meet Rooster and his friend Roger Holmes at a convenience store. Holmes, I hear, might also know a bit about bootlegging, and his flathead Ford is certainly appropriate to the task [see "Choice Haulers"]. Rooster leads us down a series of dirt

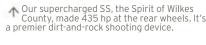
roads until we're deep in the countryside, surrounded by woods and tobacco fields, our cars covered in dust. He halts the Plymouth next to a creek, and we all get out to take a look.

"Now, if you were going to make moonshine, this is the sort of place you'd want to go," Rooster says. What you need is water to cool the still, in a location where nobody's going to bother you. And you'd be there at night. "Back in the day, you needed a fire to cook the mash, and the smoke would give you

away. So they did it at night, by light of the moon, and that's where the word moonshine comes from," Rooster says. He then produces a small still—inoperative, totally for show!—from the trunk of the Plymouth, and sets it up down by the creek. I feel as if I've time-traveled to 1952, hanging out with a couple of proto-NASCAR drivers. There's only one piece of the set that doesn't

jibe with popular legend: the decidedly

unmodified nature of the vintage machines.



Weren't bootlegging cars supposed to be all hopped up to outrun the revenue man?

Rooster concedes that many certainly were, but the bootlegging side of his family (his wife's side, actually) embraced stealth. The Plymouth was owned by Grandma Geraldine and, says Rooster, probably ran more 'shine than any car in Harnett County.

"Grandma Geraldine grew up in Tennessee, in the mountains, and they had nothing," Rooster says. "The first time she ever saw presents under the Christmas tree, moonshine put them there." The business continued all the way into the 1980s, when these real-life Dukes grew their operation a bit too large and Johnny Law realized that tractor-trailer trucks full of yeast





and sugar were perhaps excessive provisions for a convenience-store grill. But before that comeuppance, man, that Plymouth moved a lot of liquor. Just a nice lady driving a bone-stock Plymouth. Nothing to see here, officer.

While we appreciate the notion of subtlety and restraint, we are also big fans of provocation and overkill, so our SS is neither stock nor innocuous. The exterior wears giant NASCAR-inspired stickers provided by 3M and installed by Graphik Concepts of Farmington Hills, Michigan, with script on the rear quarter-panels declaring this car the Spirit of Wilkes County—said locale being the birthplace of moonshine runner cum NASCAR hero Junior Johnson. And before landing in North Carolina, the Chevy took a detour to Lingenfelter Performance Engineering's shop in Wixom, Michigan, where the 6.2liter LS3 V-8 received a 2.3-liter Magnuson TVS2300 supercharger, resulting in more horsepower at the wheels (435) than the stock SS has at the crank. It's nice to have some extra giddyap under the hood when you might have a few additional pounds sitting in the trunk.

That cargo, if you had some, could consist of a sampler of fine homemade hooch, including Cotton Candy, Apple Pie, and The Clear. The first two are self-explanatory in their flavors, with Cotton Candy running 100 to 110 proof and the Apple Pie a more cordial 40 proof. The Clear is essentially bourbon without the lead time; this is what your fancy whiskey looks like before it sits in a charred oak barrel and ages for 8 or 10 or 23 years. Moonshiners stake their reps on The Clear, and some of them define their formulas through what might be called an outsized flavor profile. "I was at a party in West Virginia," Rooster says, "and a guy opened a jar that was so strong you could smell it about a football field away."

Rooster's tales of moonshine and bootlegging get me so fired up that we jump in the SS and head out to determine how it might fare in the service of revenuer evasion. And you know, I think it would do all right. If nothing else, our would-be modern moonshiner would have a blast going sideways on dirt, peppering the pursuers with a fusillade of gravel and a cloud of choking dust. The SS is docile and balanced, a fine example of GM's chassis expertise. It's almost like they envisioned the SS doing 60-mph powerslides on gravel, which, given the car's Australian origins, maybe

As much as I want to keep doing this all day, it's time to head north to bourbon



Chariots of Firewater

CHOICE HAULERS During the 1940s and early '50s, a 1939 or 1940 Ford, particularly a Business Coupe with a load-carrying platform in place of a rear seat, was the preferred tool for delivering moonshine.

For power? In the beginning, the ubiquitous Ford flathead V-8. typically a 59A-series block (standard in the 1939 and '40 Fords). But recognizing the weight of the payload and the speed needed to keep revenue agents at bay the flathead's standard 85 horsepower just didn't cut it.

According to Wilkes County, North Carolina's own Junior Johnson, quoted in the 1999 book Brave in Life, about his moonshining exploits: "The first thing you did was take the motor out. You'd bore the thing, stroke the crank, port the heads and manifolds change the camshaft-vou put a high-performance camshaft in it—and most of the time you put Edelbrock or Offenhauser cylinder heads in it. And most of the good running motors had three

carburetors on 'em."
Supercharging was
not unheard of; indeed, the pursuit of more power helped build the aftermarket industry. It also led to the creation of the first direct-mail parts emporium: the Honest Charley speed

shop, founded in 1948 in Chattanooga, Tennessee.

The engines began to change in 1949 with the arrival of overhead-valve V-8s, notably the 331-cubic-inch Cadillac and the 303 Olds. By 1956, the Caddy V-8 had grown into a 365, and by 1959, a 390. Olds was in the race as well; in 1957, its 371 V-8 boasted the J-2 Golden Rocket option with three two-barrel carburetors and higher compression.

It was no coincidence that most Honest Charley ads featured "engine swap" kits to make it easier to drop a Cadillac or Olds V-8 into the space formerly occupied by a flathead Ford. Regardless, 1940 Ford coupes eventually ceased to be the state of the whiskey-hauling art and were replaced by then-current Detroit offerings with their big V-8s and beefed-up police-package suspensions readily available from the factories and a local dealer

Who said whiskey didn't improve the breed?

THE LOGISTICS

OF A LOAD Recognizing that hauling moonshine was an enterprise fraught with risk, a whiskey runner had to make it worth his (or her) while. The basic unit of measurement was

a "case," or about 5.5 gallons in various bottles or jars. Typically, a whiskey hauler would make \$5 per case, so it made economic sense to carry as much liquor as possible.

In Johnson's 1940 Ford Business Coupe, 22 cases represented a full load, a \$110 payment upon delivery. It was said that there were nights when Johnson would deliver four or five full loads, making as much as \$550 for a night's work. Big money in 1950 and not bad today.

Loading 22 cases into the little Ford coupe was an art form. With no back seat and a clear space to the trunk, Johnson would load 14 cases in the back of the car, making sure the payload wasn't visible above the ledge of the rear windows. Two more cases would go on the passenger's-side floor. He stacked in additional cases to provide lateral support when making hard, fast left turns.

The payload of more than 750 pounds would have increased the little Ford's weight by more than 25 percent, necessitating stiffer springs, tighter (or multiple) shocks, a lot more horsepower, and driving skills good enough to put a person in the NASCAR Hall of Fame. - JOE SCHULTE

088 04.2015 caranddriver.com

country. Now that I know a little bit about moonshine, tomorrow I'll see the above-board version of whiskey production. Rooster retrieves the Plymouth, leads us back to pavement, and we set a course for the Buffalo Trace Distillery in Frankfort, Kentucky.

After an overnight stop in Knoxville, where in the name of research several fingers of bourbon are consumed, photographer Clint Davis and I detour off the interstate to sample the back roads from Tennessee up to Kentucky. And oh, they are glorious. If you ever find yourself with a supercharged Chevy SS in the Norris Dam State Park early in the morning, I personally guarantee you'll have a good time. The Norris Freeway (motto: "Not Really a Freeway!") winds around the lake, passes over the dam, and climbs up into the hills beyond. It's got switchbacks and big sweepers and zero traffic. It's the perfect place to indulge the outlaw impulses promoted by this workingman's Cadillac CTS-V.

When we jump back on the highway, our progress actually slows, hampered by an endless succession of dawdlers. It was the same way yesterday, too. Even allowing for the lackadaisical attitude of your average Southern gentleman, something is amiss. As we near Kentucky, I figure it out: They think we're cops. Not only is the SS a veritable twin to Chevy's Caprice Police Patrol Vehicle, our graphics package is freaking out the civilians. A quick glance in

SPECIFICATIONS

VEHICLE TYPE: front-engine, rear-wheeldrive, 5-passenger, 4-door sedan PRICE AS TESTED ger package) \$48,040 BASE PRICE ENGINE TYPE: supercharged pushrod 16-valve V-8, aluminum block and heads, port fuel injection DISPLACEMENT 376 cu in, 6162 cc REAR WHEEL POWER stock: 299 hp @ 6000 rpm, supercharged: 435 hp @ 6200 rpm REAR WHEEL TORQUE ... stock: 299 lb-ft @ 4700 rpm, supercharged: 417 lb-ft @ 3600 rpm TRANSMISSION: 6-speed automatic with manual shifting mode WHEELBASE 114.8 in **LENGTH** 195.5 in _______74.7 in HEIGHT 579 in PASSENGER/CARGO VOLUME ... 107/16 cu ft CURB WEIGHT 3931-3981 lb

▼ C/D TEST RESULTS

	IOCK/JOI LICHAROLD
ZERO TO 60 MPH	4.5/3.7 sec
ZERO TO 100 MPH	10.5/8.3 sec
	22.9/16.7 sec
ROLLING START, 5-60 N	
1/4-MILE	
	11.9 @ 121 mph
TOP SPEED (governor lim	ited) 160 mph
BRAKING, 70-0 MPH	157 ft
ROADHOLDING.	
300-FT-DIA SKIDPAD	002 a
	0.93 y
FUEL ECONOMY	
EPA CITY/HWY (stock)	14/21 mpa
C/D OBSERVED (superd	tharged) 18 mng
C, D CDSLICVED (Supero	margea) 10 mpg

STOCK/SUPERCHARGED

■ TEST NOTES: With extra power available, care must be exercised to optimize launch. We obtained the best results with light brake torque and a deliberate throttle application.

the rearview mirror and "Spirit of Wilkes County" might scan as "To Serve and Protect." How ironic.

Maybe something more obviously civilian, like a Plum Crazy Dodge SRT Hellcat, would've prevented that impression. But the Hellcat is white lightning, and a trip like

this is more about smooth sippin'. The Chevrolet SS has done its soak in the oak, dating as it does back to the Holden Commodore that entered produc-

tion in 2006 and first surfaced on our shores as the Pontiac G8 in 2008. Figure at least three years of development before that, and this vintage went into the barrel around 2003. Call it Pappy Van DeLorean's 12-Year Muscle Sedan, 90 proof. It's smallbatch, too. In 2014, Chevy's roughly 3000 dealers sold only 2479 SSs between them. Which is both unfortunate and perplexing because this car is awesome.

But consumers are fickle. Greatness is as easily overlooked as celebrated. Just ask Kris Comstock, brand manager at Buffalo Trace. In the tasting room, Comstock picks up a bottle of Eagle Rare, one of 18 brands in the corporate portfolio, and says: "We made this in 2004, and it wasn't cool then. Now we wish we'd made more."

We head outside for a tour of the campus, and I notice that the brick buildings are covered in what looks like black soot, even though there are no belching smokestacks. "That's algae," Comstock says. "It eats alcohol, and there's enough in the air here that even when we scrub it off, it always comes back." That's right: Bourbon is so hot right now that even eukaryotes prefer Buffalo Trace.

Around back, near where the property borders the Kentucky River, a huge semitrailer dumps corn, the raw material for the mash, into a hopper. "We use non-GMO corn," Comstock says, grabbing a handful of kernels. "We don't make a big deal out of it. It's just how we've always done it." I ask if they'd ever considered taking things a step further and doing an organic bourbon.







Opposite: What's that, officer? Our car seems to be riding low in the back? Hmm, maybe we just put too much gas in the tank.

"Yeah," he says, "but then we'd have a bunch of guys in white lab coats coming in and telling us how to do things."

I can assure you that there are no guys in white lab coats at Buffalo Trace. The master distiller, Harlen Wheatley, drives a black Camaro SS with a license plate that reads "SHINR." And while there are plenty of scientific experiments afoot—Buffalo Trace has more than 2500 experimental barrels, and Wheatley makes small test batches using a still that looks like Jules Verne's submarine—the overall vibe is early industrial. This place is hulking brick

buildings and giant vats and catwalks straddling terrifying machinery that you wouldn't want to fall into.

And yet there are elements that seem quaint, like the room where barrels roll in on a track about head-high, to be ceremonially uncorked for bottling. And the aging warehouses, where the storage racks date to 1881. Buffalo Trace's barrels, new for each batch per bourbon strictures, are designed to hold the maximum volume allowed by the dimensions of these racks. So a decision made by the rack guy 134 years ago impacts how much bourbon Buffalo Trace is cranking out today. The company is in this for the long haul, and it'll keep doing what it does long after bourbon cedes

the day to tequila or sizzurp or whatever comes next. "We just made Pappy [Van Winkle, the bourbon drinker's holy grail] that we'll bottle in 2037," Comstock says. "So I hope people are thirsty for it then."

I'm thirsty for it now, but we've got more miles ahead of us, so we bid farewell and turn north once more, making time for *Car and Driver* headquarters in Ann Arbor. Is the rear end of the SS sitting just a bit lower now, the springs burdened by some unseen cargo? I'll leave that to your imagination. I don't notice anything different.

The next morning, about a thousand miles past our encounter with Rooster, we roll up to the office. As far as I can tell, we're not being tailed. Not that there'd be any reason for that! We're just good ol' boys, never meaning no harm. And in an ideal world, one not so uptight, I'd tell you that Chevy's gut-shaker NASCAR sedan delivered us triumphant, that we marched in and began passing around jars of North Carolina moonshine and bottles of Kentucky bourbon, a haul to bring a smile to Junior Johnson's face. But that kind of thing doesn't happen anymore, if it ever did. You've been watching too much TV.

What I certainly did do—once I got home—was pour a double of Kentucky's finest nectar and raise a toast: To overpowered cars and underground liquor. And one more to Grandma Geraldine.

NEW FINDS We want our vehicles to do it all, to take the whole crew anywhere and through any kind of weather in safety and comfort, with plenty of cargo space. The three-row mid-size SUV is arguably the best at filling that bill-it's the ultimate family hauler, even if that family is of the four-legged variety. With state-of-the-art technology and a flexible, inviting interior, the Chevrolet Traverse is the very model of the modern family vehicle.



090 04.2015

DOGGIE DAY CARE

How To Protect and Pamper Peripatetic Pooches. by Alexander Stoklosa

▶ SORRY DOGS, but man has two best friends—one

The tricky part is combining the two without either one doing damage to the other. These canine car accessories should help, and to make this test legit, we had a real, live retriever mix named Jack try all of them. Full disclosure: A dog's tummy was rubbed during our testing.

walks on four legs and the other rides on four wheels.

□ this month: TRANSPORTERS gearbox

SOLVIT ULTRALITE **BI-FOLD PET RAMI**

deployed, lightweight (10 pounds!) high-grip walkway into and out of tall vehicles for stubborn, injured, or small dogs.

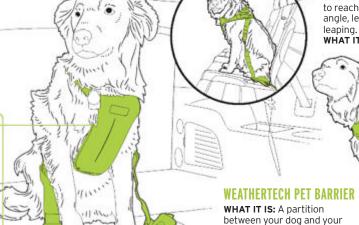
unfold the ramp and place it between the ground and your car's load floor.

JACK'S TAKE: The Solvit ramp wasn't long enough to reach our SUV's cargo hold at a comfortable angle, leaving our test canine to do some good old-fashioned leaping. To be fair, he seemed to enjoy this.

WHAT IT COSTS: \$100 at www.amazon.com

WHAT IT IS: An easily

HOW IT WORKS: Simply



hack seat.

HOW IT WORKS: The barrier is

SLEEPYPOD CLICKIT UTILITY DOG HARNESS

WHAT IT IS: The Center for Pet Safety's 2013 highest-rated safety restraint.

HOW IT WORKS: Essentially a padded vest with a trio of possible dog-to-car anchor points, the Clickit distributes crash forces evenly over a dog's body. There are multiple options for securing Fido, from a single lockdown for riding in a cargo area to two LATCH child-seat anchors with a human three-point seatbelt looped through the harness. JACK'S TAKE: Our test dog's mild confusion with

his strappy new duds gave way to outright annoyance once he was fully buckled into the car. Jack might have felt constricted—when asked his opinion, he just licked our faces-but he certainly seemed safer than the Romneys' Irish setter. WHAT IT COSTS: \$90 at www.sleepypod.com

THUNDERWORKS THUNDERSHIRT

WHAT IT IS: A tight-fitting, Velcroclosing shirt that calms anxious canines by making them feel hugged and comfy.

JACK'S TAKE: Besides looking natty and landing Jack a slimmer figure, the ThunderShirt didn't do much for our already super-chill tester. We've tried the shirt on more-rambunctious companions to better effect.

WHAT IT COSTS: \$40 at www.thundershirt.com



wagon's or SUV's cargo area, your furry friend will have plenty of stretch-out room-and zero access to other parts of your car. WHAT IT COSTS: \$70 at www.weathertech.com

adjustable feet and sliding crossbars allow owners to customize it to their liking. JACK'S TAKE: Depending on the size of your

KURGO WANDER HAMMOCK

WHAT IT IS: A comfy, waterproof berth for your dog, and it keeps the back seat clean. JACK'S TAKE: Jack barely waited for us to drape the Wander Hammock across the back seat and clip its anchor points to the front- and rear-seat headrest posts before plopping down and giving us his tummyrub-now stare.

WHAT IT COSTS: \$60 at www.kurgo.com

our best selling dress shirt white pinpoint oxford

SPECIAL INTRODUCTORY PRICE \$19.95

reg. \$69.50-\$74.50

- white 100% cotton
- · 6 collar styles
- · button or french cuffs
- · regular, big & tall or trim
- 14½" x 32" to 20" x 37"
 - FREE (reg. \$10.95) monogramming
 - Add this silk tie for \$19.95 (reg. \$62.50)

Blue, Black, Red, Yellow, Green or Orange.

Paul Fredrick

paulfredrick.com/special 800-309-6000

Specify promotional code CWRSCD

FREE EXCHANGES. New customer offer. Limit 4 shirts per customer. Shipping extra. Cannot be combined with other offers. Expires 4/30/15.



drivelines

□ we test 'em FIRST

THIS MONTH

AUDI A3 CABRIOLET 1.8T / FORD MUSTANG ECOBOOST / CHEVROLET COLORADO LT 4X4 / LEXUS RC350 F SPORT



SEDAN

2017 JAGUAR XE

Rejoice! Knife-edged dynamics in a small luxury sedan! If that's a thing people care about these days. by Eric Tingwall

For those not keeping score at home, a quick recap of the state of the sports sedan: In our June 2013 issue, a Lexus IS350 F Sport beat a BMW 335i M Sport in a three-car comparo. Ten months later, the 3-series's two-door twin lost to an Audi S₅. Then in January, our 10Best awards arrived without a single 3-series variant on the list.

For the first time in 24 years, this sweet-spot segment is without a definitive leader. As disciples of the compactluxury holy trinity-sportiness, refinement, practicality—we find ourselves rudderless. But now Jaguar, historically a purveyor of fusty British pomp and popped fuses, shows us a way forward with sharp handling, sweet steering, and luxury amenities in a serious attempt at a right-sized sports sedan.

We've just taken our inaugural drive in this, Jag's first compact sedan since the Ford Mondeo-based X-type, and it's so good that we can't think of a reason to mention that grim mediocrity again for the rest of this story. The two XE variants we drove—the supercharged V-6 XE S and a 180-hp diesel—sit at opposite ends of the performance spectrum, and yet both demonstrate the reflexes and the grace conspicuously absent in some competitors. Keep your enthusiasm in check, though, because we're still roughly a year away from the XE's U.S. arrival.

Like the larger XF and XJ, the new Jag sedan wears a body structure made mostly from bonded and riveted aluminum. The steel bits—including the doors, the trunklid, and the floorpan from the rear seat aft—are strategically located to shift the weight balance rearward toward the driven wheels.

Yet Jaguar admits that its aluminum car isn't exactly light. With the super-



ENTER FOR THE CHANCE TO WIN \$100,000

IN THE DREAM GARAGE SWEEPSTAKES



OUTFIT YOUR GARAGE WITH ALL THE ESSENTIALS

- NEW TOOLS
- STORAGE
- EVEN A LIFT!

Enter today for your chance to win at 100k.caranddriver.com

NO PURCHASE NECESSARY TO ENTER OR WIN. A PURCHASE OR PAYMENT OF ANY KIND WILL NOT INCREASE YOUR CHANCES OF WINNING. \$100,000 WINDFALL FUND SWEEPSTAKES Sponsored by Hearst Communications, Inc.: How To Enter: Beginning February 1, 2014 at 12:01 AM (ET) through January 31, 2016 at 11:59 PM (ET), go to dreamgarage.carand-driver.com, and complete and submit the entry form pursuant to the on-screen instructions. Odds of winning will depend upon the total number of eligible entries received. One (1) Winner will receive \$100,000. Open to legal residents of the 50 United States and the District of Columbia, ages 13 years or older. Void in Puerto Rico and where prohibited by law. Sweepstakes subject to complete official rules available at dreamgarage.caranddriver.com



. drivelines . sedan

charged V-6 and rear-wheel drive, the XE weighs more than 3700 pounds. That's on a par with the 3-series and about 100 pounds heavier than the neurotically thrifted (though steel-intensive) Cadillac ATS. The Jag's claimed 53/47-percent weight distribution also fails to impress. Jon Darlington, XE engineering manager, says a lighter body-in-white allows Jaguar to use heavier, more-complex suspension systems. Between this XE and the not-so-light Ford F-150, we were ready to declare aluminum the official material of diminished expectations.

Then we hammered the XE over Portugal's wandering two-lane byways, connecting its sun-bleached villages with a supercharged wail and a streak of red

paint. Behind the wheel, we felt the car's pounds melt away in an effortless hustle that's all precision and dexterity. Helped by adaptive dampers and brake-based torque vectoring, the XE S turns in quick, corners flat, and exits fast. A crease in the asphalt at any apex becomes a twitch in your palms, a flash of recognition in your brain, and a wiggle of your wrists, all without conscious thought. This is real, living, breathing steering

feel, and it's an even greater marvel since this is Jaguar's first use of electric power assist in a sedan.

Despite providing such a faithful interpretation of what's happening at the tires, the XE is never harsh. Jaguar engineers credit what they call an "integral link" rear suspension, which divvies up ride and handling aspects. A short, vertical link connects each wheel carrier to a lower control arm, isolating certain bushings so that they manage cornering forces without deteriorating ride quality. The handling bushings can thus be stiffened, while those responsible for impact suppression can be softened. This division of labor appears to work as advertised. The XE carves as well as the Cadillac ATS but with the compliance of a Mercedes-Benz C-class.

Power for the range-topping XE S comes from the 3.0-liter supercharged V-6 used throughout the Jaguar range. It excels in delivering its thrust instanta-

neously, seamlessly, and relentlessly to the 6500-rpm power peak. With 340 horse-power and 332 pound-feet of torque, the blown six-cylinder should be good for a zero-to-60 run near the head of the pack at 4.7 seconds. The excellent ZF eight-speed automatic, also used by Audi and BMW, is another reminder that no automaker should waste the time or money trying to develop something quicker, smoother, or smarter, because that may be impossible.

The V-6 engine is neither as honeyed nor as musical as the Audi S4's engine of similar configuration, displacement, and output. But even if the Jag doesn't achieve the same level of polish, the noise-and-vibration team has done an admirable job burying the unpleasant sounds and trem-



SPECIFICATIONS

VEHICLE TYPE: front-engine, rear- or 4-wheel-drive, 5-passenger, 4-door sedan BASE PRICE* \$40,000-\$45,000 ENGINES: turbocharged and intercooled DOHC 16-valve 2.0-liter diesel inline-4, 180 hp, 317 lb-ft; supercharged and intercooled DOHC 24-valve 3.0-liter V-6, 340 hp, 332 lb-ft **TRANSMISSIONS:** 6-speed manual, 8-speed automatic with manual shifting mode WHEELBASE 111.6 in **LENGTH** 183.9 in **WIDTH** 72.8 in HEIGHT 55.7 in CARGO VOLUME 16 cu ft CURB WEIGHT 3500-3800 lb PERFORMANCE* ZERO TO 60 MPH **ZERO TO 100 MPH** 10.9-12.0 sec 1/4-MILE 13.1-15.7 sec TOP SPEED 142-155 mph PROJECTED FUEL ECONOMY* **EPA CITY/HWY** 21-30/29-43 mpg

ors behind insulation and bushings. At full throttle, the supercharger is barely audible, and the engine emits a subtler variation of the F-type's rasp.

The 2.0-liter turbo-diesel four-cylinder leads a wave of compression-ignition engines set to flood the Jaguar Land Rover

The XE's design is demure, both inside and out. But its slinky dynamics and titillating steering are anything but passionless.











The Jaguar XE is the compact-luxury four-door for those who prioritize steering response over infotainment-system response.

lineup here in the States. It's also our first taste of the company's new Ingenium engine family. This engine suppresses the characteristic diesel clatter so well that it is arguably more refined than the V-6. In the diesel, the eight forward gears work to keep the engine parked in the window between the torque peak of 317 pound-feet at 1750 rpm and the power peak of 180 horsepower at 4000 rpm.

The diesel's Pirelli Cinturato P7s are low-rolling-resistance tires that dampen the wonderful steering feel found in the gas-powered XE S, but the chassis motions are otherwise every bit as competent. Besides, the diesel has its own noble purpose. The EPA highway number should easily top 40 mpg, which will help counteract the expected thirst of the future M3-fighting XE R-S performance model—not yet confirmed but inevitable—in fleet fuel-economy calculations.

The diesel's aluminum block will also serve a gasoline-burning Ingenium four-cylinder. That turbocharged 2.0-liter will ultimately make up the bulk of U.S. sales, with the diesel and V-6 cast as supporting players, but we'll have to wait about six months after the XE's spring 2016 launch for its arrival. Four-wheel drive will be optional with any engine, and we're promised a six-speed manual for either of the four-cylinders, though only with rear-wheel drive.

Of course, the XE isn't entirely without flaw. The graphics of the new InControl Touch eight-inch screen are cleaner and crisper than those of the cluttered system it replaces, but the underlying software appears to be plagued by the same gremlin: slow responses. Rear-seat space is also on the lean side, but then trying to be all things to all people is exactly what is sucking the "sports" out of our favorite German sports sedan.

You can buy a bigger back seat, a more opulent interior, a web browser on wheels, a suite of pseudo-self-driving technologies, or all four at once, but you'll want the Jaguar for its ability to connect the driver to the road. The question is whether there are enough enthusiasts still looking for a car like the XE. We'll lose faith in humanity if there aren't.

drivelines . Convertible

AUDI A3 CABRIOLET 1.8T

Talkative steering, long-distance comfort, easy to park in sorority-house lots. ■ Bang-for-the-buck factor is pretty dismal. by Davey G. Johnson

Twenty years ago, any West
Coast liberal arts school
worth its Great Books curriculum featured streets filled with E30 BMW
3-series convertibles. Whether they were
given as sweet-16 presents or inherited
from mom and dad when the young one
zipped off into the collegiate unknown,
these leftover 1980s yuppie-caricature
mobiles were movable campus fixtures.
People bought small convertibles in volume back then, and you might recall that
Volkswagen's Rabbit-based cabriolet was
still rolling off dealer lots as late as 1994.

Though VW still offers niche-y opentop cars in the form of the on-its-death-bed Eos and the too-cute-by-half Beetle convertible, the Audi A3 cabriolet seems a worthy spiritual successor to both the original Volkswagen Cabriolet and the E30 convertible.

While BMW's M235i recently replaced the 3-series on our 10Best list, the droptop 2-series is somehow a little too serious and angry-looking for duty as an updated John Hughes—movie car. If the base A3 doesn't seem wholly cheerful either, it's at least resting-bitch-face innocuous. The fenders ride high over the 18-inch wheels, doing away with any visual sense of sporting pretense. The car itself, cobbled together in Gyor, Hungary, seems to say: "Let's go for a cruise. Let's not worry much about what other people think."

Yet the four rings invite scrutiny of one's socioeconomic class. Our 1.8 test car's \$42,195 price tag suggests that the driver's parental pocketbook is made of

Princess Diana drove Audi cabriolets, so why shouldn't America's princesses? Yes, we actually just referenced Princess Diana.

SPECIFICATIONS

VEHICLE TYPE: front-engine, front-wheel-drive, 4-passenger, 2-door convertible PRICE AS TESTED \$42,195
BASE PRICE \$36,495
ENGINE TYPE: turbocharged and intercooled DOHC 16-valve inline-4, iron block and aluminum head, port and direct fuel injection DISPLACEMENT .10 cu in, 1798 cc POWER 170 hp @ 6200 rpm TRANSMISSION: 6-speed dual-clutch automatic with manual shifting mode DIMENSIONS WHEELBASE 103.8 in LENGTH 175.4 in WIDTH 777.2 in HEIGHT 55.5 in PASSENGER VOLUME 79 cu ft CARGO VOLUME 7-10 cu ft CURB WEIGHT 3384 lb

▼ C/D TEST RESULTS

ZERO TO 60 MPH 7.2 sec ZERO TO 100 MPH 20.7 sec ZERO TO 120 MPH 38.2 sec
ROLLING START, 5-60 MPH 8.1 sec
1/4-MILE 15.7 sec @ 89 mph
TOP SPEED (governor limited) 130 mph
BRAKING, 70-0 MPH 166 ft
ROADHOLDING,
300-FT-DIA SKIDPAD 0.86 g
FUEL ECONOMY
EPA CITY/HWY 24/35 mpg
C/D OBSERVED 28 mpg

■ TEST NOTES: Doesn't launch very aggressively. Brakes don't fade, but there is some dive during a strong, high-speed application of the left pedal.

quality Italian leather. After all, you can purchase a Golf with the very same engine for \$21,215, barely half the price of this Audi. Both cars make 170 horsepower and 200 pound-feet of torque. While the Golf makes do with a steel roof and a six-speed automatic, the Audi gets a six-speed dual-clutch 'box (the VW is also











available with a manual). It's not the sportiest powertrain Audi's ever stuffed into a vehicle, yet the 1.8T/S tronic transmission combo works just fine in traffic and charges admirably up a freeway. Runs from 70 to 90 mph are summoned effortlessly via a gentle application of the ball of one's right foot to the pedal, with no histrionic shifting required.

Inside, the Premium Plus model we tested is standard uplevel A3 stuff, featuring the latest version of Audi's excellent MMI infotainment system. Our seats were upholstered in exceptionally handsome chestnut-brown leather. But for 42 large, you'd think the chairs would feature power adjustment. Lack of electrified fiddly bits aside, the A3's seats are quite comfortable, though those drivers inclined toward the occasional spirited mountain-road jaunt might prefer more lateral support. Rear legroom isn't exactly stellar, much less interstellar,

The nut-brown leather interior is pretty scrumptious. Yes, we actually just used the word scrumptious to describe a non-food item.

though we're certain that Chihuahuas, Pomeranians, and other dogs that regularly travel in Birkin bags will find the back seat perfectly adequate for trips to a beachside cafe.

Though the Audi's performance numbers are rather modest—0.86 g of lateral grip, 15.7 seconds through the quartermile, and 60 mph in 7.2 seconds—the car has a fundamentally affable nature. No, it's not as performance-oriented as a GTI, and the shearing of the dome has introduced a bit of wobbliness to the structure, but the car remains completely engaging.

The A3 cab hangs its rear out on the skidpad and endearingly waggles its way over mountains. Its diminished structure amplifies road imperfections but still provides a supple, comfortable, and solid ride. Though cowl shake is by no means

excessive, the extra looseness transmits more road texture up the steering column than do the other, more solidly hewn cars built off this corporate MQB platform.

As with other VW Group softtops, the A3's lid can be raised and lowered while driving at speeds up to 31 miles per hour. The conversion happens in 18 seconds. While we did notice a bit of wind rush seeping in behind the driver's ear at freeway speeds, the overall roar was slight.

Yes, the A3 décapotable is a questionable value, especially in as-tested trim. Not that the pair will be cross-shopped, but for performance comparison's sake, a 435-hp Mustang GT convertible rings the bell at roughly the same price as our evaluation vehicle. Take it easier on the options, however, and the A3 cabrio starts to look like a more compelling proposition for a certain Greek-leaning segment of the population. We predict plenty of sales come graduation season.



FORD MUSTANG ECOBOOST

TESTED • High grip limits, three pedals, all the looks of the five-oh. ■ Lackluster engine, requires premium fuel for advertised power. *by K.C. Colwell*

If you were surprised when Ford sent us the first turbo four-banger Stang in three decades for a November-issue road test and it showed up with an automatic, raise your hand. (Okay, put your hand down, the dentist is getting nervous.) The EcoBoost was the supposed "enthusiast's deluxe" model, meaning lighter and nimbler than a GT and with the efficiency of a compact. But an auto? Just when the non-GT Mustang was shedding that secretary-car stigma?

We have a feeling that the car's gearing was why Ford opted to send us the automatic first. Manuals with the Performance package (\$1995) come with the slightly shorter 3.55:1 rear-axle ratio, which is just short enough to make 60 mph a two-shift run. This is why this manual, at 5.5 seconds, isn't as quick to 60 as the auto, or even last year's V-6, both of which hit 60 in 5.2 seconds.

Fortunately for the NHRA-minded, the extra shift doesn't hinder quarter-mile performance. Both manual and automatic (even a 2013 V-6) run identical 13.9-second ETs, with the manual crossing the line 4 mph faster. However, the turbo Stang with a stick has a large, 1.8-second advantage by 110 mph, which takes 16.2 seconds.

A Mustang EcoBoost with the Performance kit will out-corner and outbrake any pre-Coyote V-8 GT, and it'll hang in a drag race with it, too. All while returning 47 percent better EPA city fuel economy and 24 percent better highway mileage than the new 5.0. Even with lots of wide-open acceleration, we averaged 22 mpg, the EcoBoost's EPA city rating.

The turbo 2.3-liter makes 310 horsepower and 320 pound-feet of torque, numbers that used to mark V-8 territory. Sadly, it doesn't sound or feel V-8-thrilling while





SPECIFICATIONS

VEHICLE TYPE: front-engine, rear-wheel- drive, 4-passenger, 2-door coupe
PRICE AS TESTED \$38.585
BASE PRICE \$26,125
ENGINE TYPE: turbocharged and intercooled
ENGINE I YPE: turbocharged and intercooled
DOHC 16-valve inline-4, aluminum block and
head, direct fuel injection
DISPLACEMENT 138 cu in, 2261 cc
POWER
TORQUE 320 lb-ft @ 3000 rpm
TRANSMISSION: 6-speed manual
DIMENSIONS
WHEELBASE 107.1 in
LENGTH 188.3 in
WIDTH 75.4 in
HEIGHT 54.4 in
PASSENGER VOLUME 87 cu ft
CARGO VOLUME 14 cu ft
CURB WEIGHT 3657 lb

\mathbf{r} C/D TEST RESULTS

ZERO TO 60 MPH	
ZERO TO 100 MPH	
ZERO TO 140 MPH	
ROLLING START, 5-60 MPH	6.8 sec
1/4-MILE 13.9 sec	@ 102 mph
TOP SPEED (governor limited)	
BRAKING, 70-0 MPH	157 ft
ROADHOLDING,	
300-FT-DIA SKIDPAD	0.98 g
FUEL ECONOMY	
EPA CITY/HWY	. 22/31 mpa
C/D OBSERVED	

■ TEST NOTES: In lower gears, hurried shifts at the 6600-rpm redline bog the engine and head-toss passengers. It runs quicker when shifting closer to 6000 rpm.

motivating 3657 pounds of Mustang. With its throttle matted, the engine drones like a late-model pickup struggling to clear a mountain pass, and it's shamed by the silky four-pots from Honda and Volkswagen. And that's with the electronic octaves that Ford pumps through the stereo.

Plus, those 310 horses gallop only after drinking premium. Pump in regular and the engine makes less; Ford will not tell us how much. Try to remember what grade you pumped before racing for pinks.

Spending the extra \$1595 on Recaro buckets is well worth it, because the Performance pack's 19-inch Pirelli P Zeros impart 0.98 g of lateral grip. The new independent rear suspension and a stiff structure contribute here, too. This Mustang balances ride and handling better than any pony car that preceded it.

That the manual EcoBoost is no quicker than the previous V-6 is a major letdown. Ford Racing has an engine reflash coming later this year that will bring a yet-to-be-specified power bump covered by warranty. Maybe the following year that engine tune will be standard equipment and Ford will require premium rather than merely recommend it. The deluxe enthusiast can dream.

If the turbocharged four-cylinder sounded half as good as the blacked-out treatment looks, Ford would really be onto something.

discounttiredirect.com YOUR JOURNEY STARTS HERE FREE SAME-DAY SHIPPING! Some restrictions apply.







Trail Wolf starts at \$47



Radial Trail RH STARTS AT \$70







discounttiredirect.com

800.739.8999

M-F 8 a.m. - 9 p.m. EST SAT 9 a.m. - 6 p.m. EST





drivelines . PICKUP

CHEVROLET COLORADO LT 4X4

TESTED • Quiet and comfortable, easier to wield than a full-size pickup, tows 7000 pounds, modern features. ■ Not much smaller than full-size, costly as tested. by Kevin A. Wilson

Full-size pickups have become so large that the notion of a somewhat smaller truck suddenly seems like a very big deal. Indeed, General Motors has been basking in attention for more than two years since announcing that it is bringing to market all-new "mid-size" trucks, the Chevrolet Colorado and the GMC Canyon. Now they're here for 2015, whipping up some serious media froth by simply entering a neglected segment, one that has largely been dominated by decade-old designs from Nissan and Toyota.

For our first test of the Chevy, we're taking the measure of the biggest of the also has the V-6 engine and four-wheel drive. In this four-door specification, stretched over a 140.5-inch wheelbase, it casts a shadow just shy of 19 feet long. It covers slightly more driveway than does a full-size, two-door, regular-cab Silverado with the eight-foot bed.

On the road, we sat at eye level with guys in Silverado 4x4s. The Colorado is, however, a half-foot narrower than the Silverado and generally easier to wield in traffic and busy parking lots. And, for even greater ease of use, you can make it smaller still by opting for either the extended cab or the five-foot-two-inch cargo bed.

General Motors is a poet and the company doesn't know it, but its new "mid-size" pickups show it; they're Longfellows.

SPECIFICATIONS

VEHICLE TYPE: front-engine, rear/4-wheeldrive, 5-passenger, 4-door pickup PRICE AS TESTED BASE PRICE\$33,260 ENGINE TYPE: DOHC 24-valve V-6, aluminum
 DISPLACEMENT
 24 valve v, autiminant

 DISPLACEMENT
 217 cu in, 3564 cc

 POWER
 305 hp @ 6800 rpm

 TORQUE
 269 lb-ft @ 4000 rpm
 TRANSMISSION: 6-speed automatic with manual shifting mode DIMENSIONS **WHEELBASE** 140.5 in **LENGTH** 224.9 in WIDTH 74.3 in **HEIGHT** 70.5 in **PASSENGER VOLUME**..... 107 cu ft 70.5 in CARGO VOLUME 50 cu ft **CURB WEIGHT** 4536 lb

▼ C/D TEST RESULTS

- /		
ZERO TO 60 MI	PH	7.1 sec
ROLLING START		
1/4-MILE	15.5	sec @ 91 mph
TOP SPEED (gove		
BRAKING, 70-0	MPH	174 ft
ROADHOLDING,		
300-FT-DIA SKID)PAD	0.78 g*
FUEL ECONOMY		
EPA CITY/HWY		
C/D OBSERVED		18 mpg
*Stability-control inh	ibited.	

TEST NOTES: While stopping distances were not exemplary, at least the brakes were fade-free. Cornering speeds are inhibited by a stability system that intervenes to prevent catastrophé.











san and Toyota. GM's engine is quiet and reasonably refined and mates to a six-speed automatic, whereas the others still rely on five-speed units.

These powertrain advantages don't amount to much against a stopwatch, though. The Colorado got to 60 mph from a standstill in 7.1 seconds. The last Tacoma we tested, a TRD off-roader, did 7.3; the best one we ever ran turned in a 6.9. The Frontier did 7.6 in its younger days. Both Japanese engines, however, are coarser and rely on low-rpm grunt to get off the line, after which they fade. They're also thrashier at freeway speeds, whereas the Chevy, already smoother, has taller gearing to quiet things even more. And that's also where the power advantage shows; the Tacoma trails this Colorado by 0.4 second in a quarter-mile drag race.

Those intent on doing real work with their truck might worry that the Chevy's more carlike, higher-revving engine is poorly suited to heavy lifting, but it's rated to pull 7000 pounds with the tow package. You'd find more torque but less power—although similar overall performance—in a Silverado V-6, which is certified to tow up to 7600 pounds but, crew cab to crew cab, costs about \$8200 more than this Colorado.

By other performance measures, the Colorado lands midpack, braking from 70 mph in 174 feet and cornering at 0.78 g, numbers that are decent on the truck spectrum but not special. There was no fade from the four-wheel disc brakes, and understeer on the skidpad was only moderate. Steering feel and weighting are substantial on the open road and light in parking situations.

Fuel economy? We saw 18 mpg in this mid-size truck compared with 16 mpg from the full-size V-6 Chevy and 17 mpg in the Tacoma TRD Pro Series. With gas prices

At a not-insubstantial \$38,870, this 4x4 Colorado has all the capability and luxury that most pickup buyers need or desire.

suppressed, a margin of only 1 or 2 mpg is unlikely to sway many full-size-truck buyers, who seem to have notoriously short memories about the volatility of fuel prices.

But while the Colorado doesn't gain much efficiency over a V-6 Silverado, its buyer doesn't give up much, either, and pays a smaller monthly note, even when matching features with full-size trucks.

As mentioned, this one cost \$8200 less than a V-6 Silverado, even though it was loaded with options to more than \$38,000. The starting price on the big-cab, long-bed 4x4 is nearly \$31,000 (an extended-cab V-6 4x4 starts just shy of \$29K). This example showed up with a \$1080 Luxury package that includes heated seats with power adjustments. Another \$950 brought black leather and ash-colored trim, and \$1000 added dark-gray 18-inch wheels. A \$395 Safety package with lane-departure and forward-collision alerts was among the options, as were the locking rear differential (\$325) and towing gear (\$250).

Clearly, truck marketers still know how to pile up the pricey bits. Penny pinchers or those with lesser towing or hauling needs may look to a smaller Colorado with a starting price in the low 20s, four-cylinder power, and perhaps the six-speed manual gearbox. GM is making us wait until the 2016 model year for the promised turbodiesel version, although that won't be the cheapest way to go.

While there's some wait-and-see attitude out there about the mid-size-truck market—notably from GM's two Detroit-based rivals—both Nissan and Toyota are already showing their 2016 models. For now, the Colorado is the latest big thing in size medium, but that status won't be exclusive very long.

Although based on a global design built in Brazil and Thailand since 2011, the revised-for-our-market versions of the Colorado and the Canyon are assembled in Wentzville, Missouri, to avoid the absurd 51-year-old "chicken tax" levied against imported trucks. Yet even based on a years-old design, they're much fresher than the Nissan Frontier and the Toyota Tacoma that trace their origins to 2005. (The new 2016 Tacoma was revealed at January's Detroit auto show.)

For now, the Colorado has the advantage of being the newest player in a tired field. This manifests itself in polished road manners, an array of electronic safety aids, and a modern-looking cabin full of current technology. Its 3.6-liter V-6 features direct injection and variable valve timing and makes 305 horsepower, a respective 44 and 69 more than the 4.0-liter V-6s from Nis-



. drivelines . COUPE

LEXUS RC350 F SPORT

TESTED ■ Looks like Predator, granitic structure, back-road composure. **■** Not as fast or as mean as it looks, heavy for its class. *by Ron Sessions*

Sure, it sports bulging fender flares, slatted vents in its rump reminiscent of the Porsche 959's, and a menacing spindle-shaped maw that looks as if it inhales pavement by the slab. But don't let the plumage fool you; the F Sport iteration of the new Lexus RC350 is much less of a fiery road bludgeon than a spiritual successor to Lexus's first luxury coupe, the SC300.

You'll be excused for confusing the new RC350 F Sport with the equally new, 467-hp Lexus RC F. Each gets first-person-shooter exterior styling, smart cabin tailoring, and a structure beefed up from the related IS sedan with extra welds, bracing, and adhesives, but the RC350 is just pretending.

Though there is seating for four, you'll want to be in one of the RC350's form-fitting front buckets, especially to take in the LFA-supercar-inspired instrumentation, the aluminum pedals, and the classic analog clock juxtaposed by a touchpadoperated infotainment system. Just about



everything the driver interacts with is soft to the touch, padded, and/or user-friendly. This being a true Lexus, and not one of the brand's high-performance aberrations, the RC350 is whisper-quiet inside.

The F Sport joins other garden-variety Toyotas in running the firm's 3.5-liter V-6. It's an engine that you can bring home to meet both mom and your insurance agent (though perhaps knock first), and it is in fact pretty similar to the velveteen six-banger in mom's Camry. In the rear-drive RC350, the direct- and port-injected six cranks out a respectable 306 horsepower and is matched to a refined eight-speed automatic with paddle shifters.

However, those seeking a thrill from behind the F Sport's wheel will be underwhelmed. The downside of all that added structure is mass, and the 3894-pound F Sport weighs 273 pounds more than the BMW 435i and a sodden 329 pounds more than the Cadillac ATS 3.6 coupe. At 5.7 seconds to 60 mph, it trails the ATS by 0.3 second and the 435i by half a second.

With the high-friction brake pads, larger rotors, and 235/40R-19 front and 265/35R-19 rear summer tires that come on the F Sport, it should top its competitors in lateral grip and stopping power. But at 0.88 g on the skidpad and 174 feet braking

Below: The RC350 boasts thermal imaging vision, an active camouflage system, and a real distaste for Arnold Schwarzenegger.

SPECIFICATIONS

VEHICLE TYPE: front-engine, rear-wheel-drive, 4-passenger, 2-door coupe
PRICE AS TESTED\$55,315
BASE PRICE \$43,715
ENGINE TYPE: DOHC 24-valve V-6,
aluminum block and heads, direct and port fuel injection
DISPLACEMENT 211 cu in, 3456 cc
POWER 306 hp @ 6400 rpm
TORQUE 277 lb-ft @ 4800 rpm
TRANSMISSION: 8-speed automatic with
manual shifting mode
DIMENSIONS
WHEELBASE 107.5 in
LENGTH
WIDTH 72.4 in
HEIGHT 54.9 in
PASSENGER VOLUME 82 cu ft
CARGO VOLUME 10 cu ft
CURB WEIGHT 3894 lb

▼ C/D TEST RESULTS

ZERO TO 60 MPH 5.7 sec ZERO TO 100 MPH 13.7 sec ZERO TO 130 MPH 25.4 sec ROLLING START, 5-60 MPH 6.3 sec 1/4-MILE 14.2 sec ® 102 mph TOP SPEED (governor limited) 146 mph BRAKING, 70-0 MPH 174 ft
ROADHOLDING, 300-FT-DIA SKIDPAD 0.88 g FUEL ECONOMY 19/28 mpg C/D OBSERVED 19 mpg
ROADHOLDING, 300-FT-DIA SKIDPAD 0.88 g FUEL ECONOMY EPA CITY/HWY 19/28 mpg

■ TEST NOTES: Feels cumbersome, slower than our test results reveal. Manual shifting is mandatory to reach the 6600rpm redline.

to a halt from 70 mph, the F Sport trails the ATS coupe and 435i again.

The stiff platform and standard adaptive dampers allow Lexus to use moreaggressive suspension tuning and still maintain a highway ride quality worthy of the somnambulant ES350. Variable Gear Ratio Steering (\$1900) was also fitted to our test car, and it delivered that most precious of commodities—tactile feedback. The result is a coupe that doesn't rattle your organ meat while boasting good body control and smooth, balanced transitions, even when driven hard.

Much more a traditional Lexus than its styling implies, the RC350 F Sport offers a daring profile in a coupe possessed of a fairly relaxed demeanor. ■





webuildmen.org

THE KNOW-HOW,
THE PEOPLE & THE TOOLS
FOR TODAY'S MAN TO BUILD TOMORROW'S.

JOIN THE MOVEMENT, CHANGE A LIFE.
WEBUILDMEN.ORG

#WEBUILDMEN

Makeable

AutoAnything

THE LAST AIR FILTER YOU'LL EVER BUY!

K&N AIR FILTERS

The washable and reusable pleated and oiled cotton gauze filtration medium runs up to 50,000 miles between cleanings, depending on highway conditions. Backed by a 10-year / 1,000,000 Mile Warranty. Installs in minutes.

"Amazing Filters!"

"K&N are the best filters on the market. I wouldn't use anything else. The first thing I do when I buy a new truck is order a K&N Filter for it. Thanks K&N!!" - Lewis W. (West Haven, UT)





Intake. Custom-engineered with the famous K&N Filtercharger cone filter and power-tuned intake tract. Backed by a 10-year / 1,000,000 Mile Warranty. Easy installation.

"Street legal in most states. Some intake systems are not legal for use on certain vehicles in California or other states adopting CA emission standards. See online for CARE status an each part for a specific vehicle.

PLUG-IN MORE POWER OR MPG IN MINUTES!



PROGRAMMERS & CHIPS

Ever feel like your engine can do more? Your vehicle is stronger, faster and fiercer than you might imagine, and a programmer is the key to opening the floodgates for full-throttle power. Tap into secret horsepower, torque and MPG via your OBDII port in less than 10 minutes. See our huge selection online.



Not leaal for sale or use on pollution-controlled vehicles in the State of California or states that use the CARB emissions standard.

ERIENCE MONSTROUS POWER & SOUND!



CUSTOM EXHAUST SYSTEMS

Ditch your restrictive stock pipes and move up to a powerful performance exhaust system. Big power gains, a throaty growl and improved fuel economy-that's what a performance exhaust system delivers. And, each system is custom-bent for your exact year, make and model.

MUFFLERS CATALYTIC CONVERTERS....From \$6295 HEADERS..... **EXHAUST SYSTEMS...**

CHESON BOY'S CORSA MEKR

complete selection.

At the track or on the street, serious drivers trust EBC Brake Pads and Rotors to halt their rides. Having ridden along with world champion racers, EBC Brakes has earned a well deserved, world-wide regulation

as the maker of high-performance brakes. Call or visit us online for our



UPGRADE TO BETTER BRAKES FOR LESS!

Delivers Stellar Braking Without Noise! More Powerful Than Stock!

EBC ULTIMAX SLOTTED ROTORS From \$105^{71/pr.} FREE Shipping

EBC SPORT ROTORS From \$79^{19/pr.} FREE Shipping

Than OEM!

30% Less Dust

EBC GREEN STUFF BRAKE PADS From \$46^{36/pr.} FREE Shipping

Greatly Reduces Stopping Distances!

EBC RED STUFF BRAKE PADS From \$5600/pr. FREE Shipping

GEAR UP FOR SPRING! VISIT US ONLINE FOR OUR COMPLETE SELECTION OF SPRING DRIVING ACCESSORIES.



PET TRAVEL

Invite your four legged friend to travel in style with our huge selection of pet travel accessories.



BIKE RACKS

When the trails call your name, will you be ready? Deck out your auto with quality bike racks for less from Auto Anything.



ROOF RACKS

Create more space when you equip your roof with the basics. Attach bike & ski racks, cargo carriers and more!



CARGO CARRIERS

Adding a cargo carrier is like adding a second story on your home. You get more space, comfort and convenience.

1,000s of Parts for Performance, Protection & Style

Call Our Experts 888.686.5870

FORTIFY YOUR FLOORBOARDS WITH CUSTOM FLOOR MATS & LINERS!



FLEXOMATS FLOOR MATS

FLEXOMATS car floor mats completely cover and protect every inch of your floor. Plus, the heavy-duty square-rubber tread is designed to deliver unbeatable traction while locking in mud and grime. Lifetime Warranty.



HUSKY LINERS WEATHERBEATER FLOOR LINERS

Husky Liners WeatherBeater Floor Liners form an impenetrable barrier to protect your carpet from mud, muck and spills. Front, rear and cargo liners are available in black, tan or grey.



LLOYD MATS ULTIMAT CARPET FLOOR MATS

Lloyd Mats Ultimat Custom Carpet Mats offer total customization, superior protection and unmatched style. Crafted from durable 32oz nylon and available with custom embroidery. 2-year warranty.

ADD A NEW CUSTOM LOOK TO THOSE WORN OUT SEATS! HUNDREDS OF COLORS & FABRICS ONLINE.



COVERKING NEOSUPREME SEAT COVERS



COVERKING CAMO SEAT COVERS



CALTREND DURA-PLUS CANVAS SEAT COVERS



LEATHERCRAFT LEATHER SEAT COVERS

ENJOY FRESH AIR EVEN ON RAINY DAYS!



CUSTOM WINDOW DEFLECTORS

Crack your windows for some fresh air while deflecting the drips, drops and deafening drafts seeking to soak your interior. A quick and easy no-drill installation makes for a perfectly snug and secure fit.

PRESERVE YOUR SHOWROOM SHINE!



CUSTOM CAR COVERS

Get tailored protection for your vehicle that blocks dust, sap, sun, rain and much more. A custom car cover pampers your paint and preserve your resale value. 100's of colors & styles available online.



20 Years of Built, Not Bought.

Since 1995, we've helped more people build their own custom car than anyone else. Let us help you build your own modern day classic!

Mk4 Roadster



Kit starts at \$12,990

'33 Hot Rod



Kit starts at \$9,990

Type 65 Coupe



GTM Supercar



Kit starts at \$24,990



Kit starts at \$9,990



Free brochure & DVD!

www.factoryfive.com 508-291-3443



BMW & MINI parts



- Free shipping over \$150 (most orders)
- Free DIY video guides
- Free color catalogs



Parts, accessories & knowledge since 1974

800.535.2002 | BavAuto.com

MicrobeadCarCovers.com Practically Custom-Fit COVERS

only **\$99**

"This (cover) is lighter, easier to handle, the elastic is really good and tight. Neighbors think it's gorgeous — Arizona (BMW328i)

"Very nice cover, fits like a glove"

— Virginia (Porsche Panamera)

"I already bought 2 covers this year. They are absolutely the best car covers I've ever had" — Tennessee (Nissan Z)



Select-Fit Car Covers

- Free Bag & Lock Free Returns
- Lifetime Warranty Ships in 24 Hours
- Water Resistant Breathable Material

Y your Yr Make & Model to 617-657-4212 for more info

888-627-1129

BRAKEWORLD GUARANTEED BEST PRICE - LARGEST SELECTION GUARANTEED FITMENT · ADVICE YOU CAN TRUST **ULTRA HIGH QUALITY ROTORS** PERFORMANCE BRAKE PADS

STAINLESS STEEL BRAKE LINES



PROTECTED NANO COATED ROTORS



SHOP ONLINE 24/7 WWW.BRAKEWORLD.COM TOLLFREE: **866.272.5396**









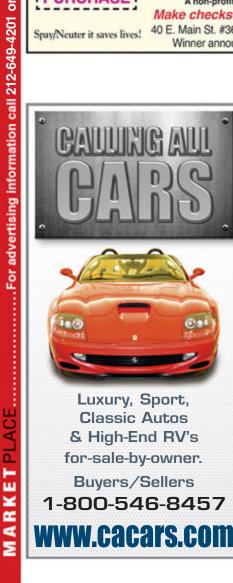
2015 SPRING BENEFIT RAFFLE

All ticket purchases benefit the people served by Living Arrangements for the Developmentally Disabled (LADD). Founded in 1975, LADD is a designated 501(c)3 by the IRS. The Grand Prize drawing is observed by a representative from the auditing firm of Barnes, Dennig & Co., Ltd. Raffle Rules at: www.laddinc.org/benefit-car-raffle

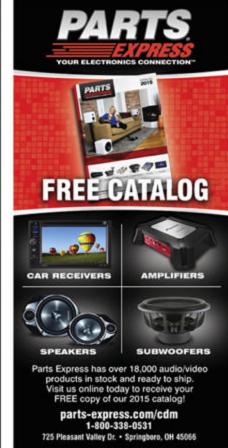
Contact us: LADD, Inc. * 3603 Victory Parkway * Cincinnati, OH 45229 Phone: 513.487.3955 * Email: raffle@laddinc.org

@LADD_Inc

According to the Internal Revenue Code the amount paid for chances to participate in a raffle does not qualify as a charitable contribution.













WeatherTech®

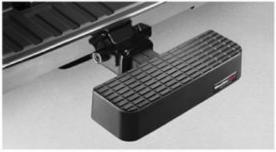
Automotive Accessories



See our full line of Automotive Accessories at WeatherTech.com



Premium Automotive Care and Cleaning Products



BumpStep®Hitch Mounted Bumper Protection



Cargo Tech® Cargo Containment System

Acure Audi PMM

Acura · Audi · BMW · Buick · Cadillac · Chevrolet · Chrysler · Dodge · Ferrari · Ford · GMC · Honda · Hummer · Hyundai · Infiniti Isuzu · Jeep · Kia · Land Rover · Lexus · Lincoln · Maserati · Mazda · Mercedes-Benz · Mercury · Mini · Mitsubishi · Nissan Oldsmobile · Plymouth · Pontiac · Porsche · Saab · Saturn · Scion · Subaru · Suzuki · Toyota · Volkswagen · Volvo · and more!

Order Now: 800-441-6287

Accessories Available for



American Customers
WeatherTech.com



Canadian Customers WeatherTech.ca



European Customers WeatherTechEurope.com





No Hassle Return Policy

Lifetime Warranty On All Hand Tools

Master

100% Satisfaction Guaranteed

Over 25 Million Satisfied Customers

1000 lb. Capacity

LOT NO.

44649 69591/69646

Item 44649

REG. PRICE

550 Stores Nationwide

 HarborFreight.com 800-423-2567

5 PIECE AUTO TRIM

AND MOLDING

TOOL SET

REG. PRICE \$12.99

what i'd do differently...

112 04.2015 FRANK STEPHENSON

McLaren's design boss, now 55, oversaw the modern Mini and the Ferrari F430 before drawing the P1. He was born in Morocco, speaks seven languages, and is a U.S. citizen.

C/D: You started with Ford in Europe, where you're best remembered for the Escort RS Cosworth.

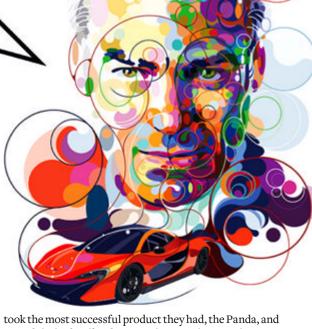
Fs: It was my highlight, definitely. If you look at that car you see it has a big wing on the back and a smaller one on the tailgate. But when I first did it there were three wings; like a Fokker Dr. I Triplane, there was another in the middle. The beancounters got rid of that one. "No car needs three wings." Yeah, right, it would definitely have been better!

C/D: Next you went to BMW, where you designed the X5 and the R50 Mini. Was that the car that really put you on the map? FS: I've never had children—I wish I had—but my mother, every time she sees a Mini it's like her grandchild. There were 15 design proposals for that car, each with a designer and a team of clay modelers to get it built. Of course, it went down to the wire and it was past midnight on the day of the presentation—this was in October '95—and we'd finished it and started to drink. Then I have one last walkaround and freeze: We'd forgotten to put an exhaust on the car. Everyone's flat on their backs by this stage, so I took a Budweiser can from the chief modeler, cut it in half, polished it up, and then stuck it into the clay. Anyway, they chose the car, and Chris Bangle [then BMW's chief of design] comes over and says: "Great job, Frank—this is going to be huge for you. But never, ever waste a modeler's time making such a detailed exhaust pipe." He thought it had been done on a lathe, taken somebody six hours.

C/D: Were you surprised to be asked to go to Maranello? FS: After the Mini, everyone was calling, but I didn't want to leave. Then a professional headhunter calls up and says a company wants to talk about a senior design role, but she wouldn't tell me who. They sent a plane ticket, and I figured why not go and see—the ticket was to Turin, so I thought Fiat. Sure enough, I get there and have lunch with the head of design for Fiat and the head of engineering, so I think it's a studio manager position, something like that. When they tell me it's design director for Ferrari and Maserati, I coughed tiramisu everywhere. Ferrari didn't have a design director, it used Pininfarina and Giugiaro for everything. But they say that somebody needs to take control, that Luca [di Montezemolo] is getting all teed off because he doesn't like the stuff they're doing. I was like, "Where do I sign?" I was hired right there.

C/D: You had a dream job and got to oversee the F430 and Maserati MC12. So why did you move to Fiat?

FS: It was like going from heaven to hell. Fiat was ready to crash, the company had had it. [Sergio] Marchionne had come in and sacked almost everybody, and I was basically summoned to be design director. I was like, "What have I done wrong?" They said nothing, you've just got to build a new car in 10 months and it's got to be successful or no more Fiat. So we had a brilliant idea; we



ripped the body off and put another on. That was the new 500. C/D: After a brief interlude at Alfa, you were recruited by McLaren. Does Woking feel dull and sensible after Maranello?

FS: Not at all. Everybody who works in the car industry at this level is passionate; you've got to be. When I was at Ferrari, there were piles of paper on the floors, and people yelling across the room, or guys throwing things around. That's passion, sure, but it doesn't help you do things. Look at the P1. Nobody can accuse that car of being unemotional.

C/D: And how do you get on with Ron Dennis?

FS: When we first started on the P1, Ron asked if there was anything he could do to help. I said, "Yeah, give us Lewis Hamilton's [F1] car from last year [2009]," just so we could absorb it basically, get our heads around it. It just sat in the studio for a month, and we looked at it and tried to figure it out—like an osmosis process. That was a big part of making the P1 the car it turned out to be—tight and athletic, wrapped around its hard points—and Ron got it straightaway.

C/D: Okay, so what would you do differently?

FS: I've got to be one of the luckiest people in this industry. The way my career has gone, I've always been moving uphill even if it felt like I was going sideways or down. Ferrari to Fiat felt like a slide, but I got to do the 500. Everything I've done has led me to where I am now, which is exactly where I want to be. And wait until you see what's coming—I promise the McLaren P14 [2016 650S replacement] is even crazier than the P1. —MIKE DUFF

CAR AND DRIVER © Volume 60, Issue 10, (ISSN 0008-6002) is published 12 times a year by Hearst Communications, Inc., 300 West 57th Street, New York, New York 10019 U.S.A. Frank A. Bennack, Jr., Executive Vice Chairman and Chief Executive Officer of the Board; Steven R. Swartz, President; Catherine A. Bostron, Secretary, Hearst Magazines Division: David Carey, President; John P. Loughlin, Executive Vice President and General Manager; John A. Rohan, Jr., Senior Vice President, Finance. © 2015 by Hearst Communications, Inc. Periodicals postage paid at N.Y., N.Y., and additional entry post offices. Canada Post International Publications mail product (Canadian distribution) sales agreement 40012499. Editorial and Advertising Offices: 300 West 57th Street, New York, New York 10019-5239 SUBSCRIPTION PRICES U.S. and possessions: \$13.00 for one year. Canada and all other countries: \$299.4 for one year. Ganda and all other countries: \$299.4 for one year. SUBSCRIPTION SERVICES Car and Driver will, upon receipt of a complete subscription order, undertake fulfillment of that order so as to provide the first copy for delivery by the Postal Service or alternate carrier within 4-6 weeks. From time to time, we make our subscriber list available to companies that sell goods and services by mall that we believe would interest our readers. If you would rather not receive such offers via postal mali, please send your current mailing label or exact copy to Mall Preference Service, P.O. Box 37870, Boone, IA 50037. You can also visit http://hearst.ed4.net/profile/login.cfm to manage your preferences and opt out of receiving marketing offers by email.

receiving marketing offers by email.

receiving marketing offers by email.

For customer service, changes of address, and subscription orders, log on to service.caranddriver.com or write to Customer Service Dept., Car and Driver, P.O. Box 37870, Boone, IA 50037. Car and Driver is not responsible for unsolicited manuscripts or art. None will be returned unless accompanied by a self-addressed stamped envelope. Authorized periodicals postage by the Post Office Department, Ottawa, Canada, and for payment in cash. POSTMASTER Send all UAA to CFS. (See DMM 707.412.5); NON-POSTAL AND MILITARY FACILITIES send address corrections to Car and Driver, P.O. Box 37870, Boone, IA 50037. Printed in the U.S.A.

ADVERTISEMENT

HITTHE ROAD! WITH GREAT NEW GEAR FROM SHOP GARAND DRIVER.COM



FOR 20% OFF YOUR ORDER, ENTER CODE CDAPRILZO AT CHECKOUT.
TO PURCHASE THESE AND OTHER GREAT PRODUCTS, VISIT SHOPCARANDDRIVER.COM